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A Mastering A&P Story:

Monitoring student progression
and helping students master
complex concepts



Key Findings

Two educators at Monash University believe that Mastering A&P:

- **Enables educators to monitor student learning.**
- **Provides students with ample opportunity to learn complex concepts and practice them with instant feedback.**
- **Promotes positive student engagement.**

Summary

Monash University has been using Mastering Anatomy & Physiology (A&P) for over eight years and it is fully integrated into the teaching and learning of a Foundational Anatomy & Physiology course. In this Educator Story, we have interviewed two educators who have been teaching this course together for the last 12 years and using Mastering A&P for 8 years. They shared with us how Mastering A&P helps them to monitor students' learning progression with weekly quiz results and tutorial performance, enabling them to adjust their teaching if necessary.

Mastering A&P enables students to learn complex concepts from multimedia tools that best suit them, offering various activities to put their learning into practice. Both educators strongly agree that Mastering A&P supports student engagement, with over 80% of students accessing the study area, and it is an integral part of teaching and learning of this course.

Description of Course

There are approximately 150 students enrolled in this Foundational Anatomy & Physiology course each year. Most of them are first-year students enrolled in a bachelor degree in Occupational Therapy. The prescribed text used in this course is *Human Anatomy and Physiology* by Elaine N. Marieb and Katja Hoehn. This course runs for 2 semesters and it is a blended course with one-third of it conducted online. The teaching format consists of a weekly lecture, followed by a Moodle lesson most weeks, as well as a weekly tutorial and bi-weekly practical classes. Prior to attending the weekly tutorial, students are required to complete an online quiz within Mastering A&P. There are 10 quizzes assigned during this course and each is worth 1%. In total, these Mastering quizzes account for 10% of the final grade.



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Product Implementation

In 2010, there was a push at Monash for blended learning and to provide alternative styles of study resources for students. Occupational Therapy students were among the first ones who started to use Mastering A&P at the Peninsula Campus. The educators started with weekly pre-tutorial quizzes utilising Mastering A&P. By doing so, students would need to have studied beforehand, in order to complete the quizzes prior to attending their tutorial. By looking at the quiz results, the educators were able to assess if the students had been studying and if there were areas that they were not comprehending well.

Today, students interact with Mastering A&P both in class and outside of class. In class, students access videos and Practice Anatomy Labs, while outside of class, students complete online quizzes and homework assignments.

Students are required to submit 10 pre-tutorial quizzes in total, which are multiple choice questions with a single attempt and without hints. Monash University's general exam policy is generally one minute per mark, and a multiple-choice question is worth one mark. Students were originally given 10 mins to complete a 10 question quiz, however, the product is now integrated with Moodle, so the additional load time has led the educators to allow students 15 minutes to complete a quiz.

The educators believe that the students enjoy doing the quizzes, and there is a high completion rate.

“The students seem to do them (the quizzes), and they seem to enjoy doing them because it does keep them up to date”

“We did often survey the students and ask them what resources have they used, a lot of them come back saying “I love the quizzes!”

Apart from the quizzes, students are also given 10 homework assignments which can include art labelling or drag & drop questions, Interactive Physiology activities, and A&P Flix videos. Almost 100% of the students complete the homework assignments. Homework assignments carry no marks towards their final grade and they are merely for revision purpose. According to the educators:

“It is about 85% of students accessing various things in the study area as revision. So the students definitely use it. And it helped to be more specific about what's relevant for them, rather than just saying explore this and work it out.”

“Students often come back to ask for more questions.”

The educators have fully integrated Mastering A&P into their teaching. For instance, they often use the Interactive Physiology or the A&P Flix videos in the tutorials and the Practice Anatomy Lab in the practical classes. On the worksheet for each tutorial, all the resources that are relevant and helpful in the Mastering



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A&P study area are listed to guide students' study of the topic that week. The educators keep incorporating newly developed resources. They started off with quizzes, then PAL 3.0, study area, revision activities and recently they have integrated Learning Catalytics into revision classes as well.

“We've got [Mastering] embedded in everything we do, all the figures, the textbook references and the Interactive Physiology where it's relevant. So definitely we have no plans to not use it.”

In terms of monitoring student performance, the educators are able to put all tutorial groups into the Gradebook and they can look at individual classes to see how the students are performing. They also look at the quiz results regularly. Students usually do quite well in the quiz, with most of them scoring between 7-10 correct answers. If the students perform worse than usual, the educators would address that in their tutorials; if the results are very good, they would mention that too. If many students haven't done the quiz by the due date or some of them missed a couple in a row, the educators email the students and remind them to keep them engaged.

Instructor Experience and Perception

Both educators in our interview reported that Mastering A&P fits in well with their teaching, and it's been an integral part of the content development. They find the A&P Flix videos really useful for tutorials and lectures. The educators also highly recommend Interactive Physiology as a resource for complex topics such as the heart and blood pressure, as educators are pressed for time to go through every detail in lectures.

They also said Mastering A&P makes the teaching and learning more specific; it enables students to apply a lot of their knowledge and put it into practice, which helps them to see the significance of it and to understand it fully. The videos help students to visualise complex concepts such as muscle contraction - it's not easy to lead students to think about how an action actually stimulates the muscle and gets to the contraction; it's much easier to learn through a video. For example, one educator said:

“They don't get the concept without watching a video, they can't get that from just reading a text.”

By looking at the weekly quiz results, the educators can quickly assess if the students are struggling with certain topics and can provide extra support promptly. For the students, after the quiz due date, they are able to view the wrong answer feedback and the hints, which is helpful for revision.

Both lecturers strongly agree that Mastering A&P is easy to access, adds value to the course, and supports student engagement and learning. They would recommend this product to other educators to teach similar courses.

“Well, besides that it works. We get good results with the O'Is. (Occupational Therapy BSc. Degree)”



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Both instructors also rated the customer support provided as excellent, noting the support they have received for implementing this product over the years.

“All the sales consultants that we’ve dealt with have been delightful and very helpful. They have gone above and beyond whenever we’ve had any kind of issues. So as far as customer service, we have 100% total satisfaction.”

Conclusion

Mastering A&P has been instrumental in supporting the teaching of this course. It enables the educators to monitor student learning through the quizzes and it provides students with a variety of ways to learn complex concepts and practice them with instant feedback. It also promotes positive engagement as students can choose the way they like to learn and they are all very different. This point is highlighted by one of the educators in saying that:

“Mastering A&P gives them (students) a variety of ways to learn because some of them need videos, some of them like testing themselves, they enjoy labelling diagrams and make their own flashcards and so there are multiple choices.”

“They (the students) like using Mastering A&P. We always get good feedback about it.”

The feedback from these two educators suggests the implementation of Mastering A&P supports a positive impact on learner outcomes with well-received learning experience, high access rate and good student engagement.