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A Mastering A&P Story:

Mastering A&P, Flinders University

Dr. Didy Button, Lecturer in Nursing
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Key Findings

Dr. Didy Button, a lecturer and Topic Coordinator at Flinders University, found Mastering A&P had a positive impact in her Anatomy & Physiology course in many ways including,

- **Keeping track of and improving student engagement**
- **Significantly reducing administrative burden**
- **Creating a pleasant learning environment that accommodated most learning styles**
- **Providing high quality customer support from Pearson**

Summary

Flinders University is a public university located in Adelaide, South Australia where their slogan is “inspiring achievement”. As of 2018, their enrolment reached over 26,000 students, with around 5,400 of them being international, and employs over 2,600 staff members. The main campus is located in Bedford Park, while there are additional locations at Victoria Square and Tonsley.

Since 2014, Flinders University has offered Anatomy & Physiology (A&P), utilising Pearson’s Mastering A&P. Lecturer Dr. Didy Button is currently the Topic Coordinator for the course, in which she oversees and assists 17 other instructors, whom are all registered nurses.

Description of Course

Dr. Didy Button and colleagues utilise Mastering A&P with their approximate 480 full-time students, which accompanies the *Fundamentals of Anatomy & Physiology* by Martini textbook. This is a first year, first semester course and is the pre-registration for Bachelor of Nursing, so students come with no previous nursing experience. Students are typically school leavers, although some come through the foundational course and are adult learners or come in through a different degree pathway.

Given the size of this class, Flinders University did not have the room to hold all students. As a solution, they initially tried to conduct lectures in two separate lecture halls but the feedback from students indicated that the quality of the audio was poor for those in the second lecture hall. Therefore, they decided to provide lectures online. Didy feels that offering online lectures is the best way to deliver a consistent lesson to all students and comprehensive notes to all instructors.

This particular course is hybrid, in which classes meet both in person and online. They use a flipped learning approach where students are expected to complete assigned activities before coming to a four-hour face-to-face class. During this four-hour class they do a two-hour A&P lab followed by a two-hour health assessment based on the previous class topic(s). The health assessment is an essential part of the first-year course as it is closely tied to



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A&P concepts and teaches students how to interview and conduct a basic physical exam. Both the lab and health assessment are taught and led by the same instructor. All 22 lectures are fully online and pre-recorded by Didy, available in audio and PowerPoint, as well as summarised in short, 2-page documents.

The course is 14 weeks total during which time they cover content for the first ten weeks, with exams during week 13 and 14. There are a total of ten quizzes corresponding with the first ten classes, that account for 15% of the overall grade, with each quiz equaling 1.5%. The instructor also incorporates the adaptive learning capacity of Mastering A&P within the quizzes so students who achieve a 95% or higher on their test get an extra five points. Students who receive less than a 95% on the quiz get an opportunity to earn an extra five points by answering three questions out of the ones they got wrong. She finds a lot of students take advantage of this opportunity.

On top of the 15% of the total grade accounted for by quizzes administered through Mastering A&P, the rest of the assessments account for the grade as follows:

- Final exam: 30%
- Health assessment: 40%
- Early assessment (conducted in week four of the topic): 15%

The early assessment is to help instructors determine if students are comprehending the reading, are writing up and getting the appropriate answers for the reports, and whether they are engaging with the content.

Product Implementation

As Topic Coordinator, Dr. Didy Button has several goals for the A&P course. First, since this is a first semester, first year Bachelor of Nursing course, she wants to motivate students to continue through the programme and strive to be the best registered nurse they can be, which includes helping them learn the fundamentals. Also, she wants to teach the students how to appropriately manage their time. Students have the opportunity to apply time management skills through the use of Mastering A&P as there are assignment and assessment deadlines scattered throughout the curriculum. One example is the Mastering A&P quiz deadlines. They are open for 24 hours a day for one full week, after which time they are unable to go back in and complete the quizzes without a note from a doctor stating they were sick the entire time the quiz was open. Lastly, Didy wants to find a resource that provides consistent information to all 480 students and 17 instructors, as well as have that resource align with their content.

Five years ago the course switched to a flipped learning approach. The first year they tried Mastering A&P on a trial basis, offering it to students for free, in an effort to gather student and instructor opinions. To understand their experience, Didy evaluated student feedback using tailored University Student Evaluation of Teaching (SET) questionnaires. This evaluation helped her determine whether purchasing Mastering A&P was worth the investment. She took into account the quality of the resources and questions as well as student feedback. Based on the information she gathered, she asked the Dean to approve a site license.

Specifically, Didy wanted to continue with Mastering A&P after the trial because she wanted to keep track of student learning every week and found the question bank from Mastering A&P to be of much higher quality with a wider variety, as compared to the online platform the university utilised before. Further, she found that A&P concepts are much better explained visually and can be used to consolidate student learning when resources from the lecture, text and questions are all similar. This creates familiarity and understanding of concepts for students.



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Students utilise the university's online platform called Flinders Learning Online (FLO), which is fully integrated with Mastering A&P, and is where all the modules are located. The suggested process is that students first listen to the online lecture, and then prepare for class by working on reports accessing the knowledge gained from the lectures. Next, they come to class and complete the report with their classmates with the help of their instructor. Lastly, they have the health assessment and lab for four hours followed by the Mastering A&P quiz, which Didy suggests they take that same evening. FLO also includes other supplemental resources for students to access like videos and suggested readings. Didy and instructors even produce their own short videos about each assessment, providing students an understanding of the assessment components. In addition, these short videos create a consistent thread from Didy to all of the instructors allowing students to learn similar content. Mastering A&P is used mainly outside of class to take quizzes, but they also use Learning Catalytics at the end of each class.

For the quizzes taken on Mastering A&P, Didy makes sure that all questions are aligned with the lecture content, as well as the learning outcomes for each particular module. She prefers to set up the quiz as a summary of their learning for the end of every module. As for the particular questions, she typically adds different styles of multiple choice, such as true/false or matching, to provide a variety for students. The quizzes are open Monday through Friday, 24 hours a day and students are allowed about 45 minutes to complete them once they are opened. Timings for each quiz vary depending on the number of questions and the degree of difficulty estimated by the international learning analytics on each question provided in Mastering A&P. Students are allowed one attempt to complete the quizzes at their convenience during that week. At the end of the week, once the window in which they can complete the quiz has closed, students receive results of their quiz and are able to go back and repeat it for practice.

In order to monitor students' progress, Didy utilises the Mastering gradebook. She is able to determine which students have completed or neglected to complete quizzes. Should a student not enrol or complete a quiz, Didy would reach out to them to determine the reason and try to rectify the situation, if possible.

There is also a discussion forum in which students can discuss topics and ask questions. While Didy does not closely moderate the forum, students help one another. Lecturers can, and typically do, join to answer students' questions.

Instructor Experience and Perception

Dr. Didy Button found that using Mastering A&P in her course has had a positive impact on students. She believes Mastering A&P has created a pleasant learning environment for her students and accommodates most learning styles.

"It provides the students with an opportunity, in an innovative way, to test their knowledge. Lots of students have different learning styles so this provides them with visual options, and high-quality animations."

Didy feels the videos and animations are important because some of the A&P concepts can be difficult to master. She believes having a video helps students comprehend the topic better and in a more complete way. Grasping the fundamentals is necessary to make a smooth progression through courses to achieve a Bachelor of Nursing degree. She found that *"students do find them useful (and enjoy) watching them."*



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She feels Mastering A&P provides motivation and a source of engagement throughout the course. When analysing the gradebook, Didy gets a sense of each students' level of engagement as a whole. She reports that out of the 480 students, it appeared that 450 engaged with Mastering A&P, while only about 30 did not complete any quizzes within the program. She believes it supports their learning and the quizzes motivate them. *"I think it is a motivator at the end of the module for them to go in and see and answer these questions and get the majority of them right."*

She finds that Mastering A&P helps facilitate her teaching for this course because it *"is a reliable source of quality resources."* Further, it helps to reduce administrative burden, to follow student progress and blends nicely with the course content.

"I don't need to get it marked, it's automatically marked. I can see student progress through it, so it ticks all my boxes as to a short piece of summative assessment (and) I am not spending tutor marking time on it because it's all self-marked. It's closely aligned with our content, so it's meeting the needs of what I'm wanting it for."

She believes it has also facilitated her teaching because it provides easy ways to setup questions, the confidence of knowing which questions match which course goals, and a way of gauging how difficult the questions are for similar students. She finds the learning analytics embedded within the program to be very useful.

"It's set up with balloon text with the learning outcomes, so I know with confidence what questions I am choosing. I can see internationally how difficult the question is. I can see how many people have been getting it right the first time. All of that helps me analyse what set of questions to put in place or not. All of the learning analytic information available on the website when you create questions and assignments is very useful in helping me choose questions."

Aligned with her goal to provide a similar resource throughout the course to all 480 students, she believes that Mastering A&P offered her students a consistent way of obtaining content, which was valuable for their learning.

"I think it is meeting the learning outcome. It's a way of me providing a similar resource in the lecture, a similar resource in the report, similar resource in the classroom and then also in the quizzes. I think that continuity of style of learning, the types of illustrations, all helps their understanding."

Because the quizzes are timed and only open for one full week, Didy believes that Mastering A&P has helped students with time management, which she notes is a very important skill. She believes that time management is a skill that can be applied to all facets of life, not just school, but acknowledges that it is something students often struggle with, especially as first year students. *"It's all about developing those skills of time management that university students struggle with. (Mastering A&P) is good on that front as well."*

Didy is very pleased with the support from Pearson. She finds the representative to be very supportive and efficient as they promptly corrected the few issues they experienced, which she very much appreciated. Didy was so impressed with the attentiveness of the representative that she shared it with fellow colleagues.

"The (Pearson representative) has been a really great support and because I have spread the word amongst my colleagues, there are...at least another (three) people that I know of that are now using Mastering in the college that I am working with."



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In fact, Didy stated that the Pearson representative spent a lot of time working with her colleagues to build their confidence and skills in creating assignments using Mastering.

Conclusion

Overall, Dr. Didy Button is very happy with her experience utilising Mastering A&P these last 5 years. From her perspective, it has had a positive impact on students and instructors alike. For students in her course, Didy believes Mastering A&P has been a strong motivator, increased student engagement and helped develop time management skills. For her and the instructors, it reduces administrative burden, helps monitor student progress, and creates confidence that questions chosen for assessments are closely aligned with content. Further creating a wonderful experience is the excellent customer service Didy received with Pearson.

Next Steps

Currently Dr. Didy Button is involved in developing the curriculum for 2021. She reports their plan is to continue using Mastering A&P for the spring and fall semesters in 2021.