

# Survey of Physician Assistant Curriculum in Ultrasound at Des Moines University

Kevin Z. Qi BS<sup>1</sup>, Holland Taylor MSPAS<sup>1</sup>, Peter Ma DO<sup>1</sup>, Thomas Benzoni DO<sup>1</sup>, John Fell DO<sup>1</sup>, Donald Matz PhD<sup>1</sup>, Sarah Clayton PhD<sup>1</sup>, and Kevin A. Carnevale MD<sup>1</sup>

<sup>1</sup> Des Moines University, Des Moines, IA

## Introduction

Over the recent years, there is great interest nationwide in integrating ultrasound (US) into the physician assistant (PA) curriculum. Two of the biggest challenges that impair implementation of ultrasound into PA programs are lack of access to ultrasound machines and trained faculty. Des Moines University started ultrasound training for the PA program in their first year since 2017. The PA ultrasound curriculum consists of ultrasound teaching or training in didactic lectures, anatomy, cardiac physiology, vascular ultrasound, muscular skeletal ultrasound, FAST exam, and central line placement.

## Methods

- ❑ A three-year survey of the PA ultrasound curriculum was conducted assessing student's response to various areas of the curriculum.
- ❑ The survey included US enhanced learning of heart anatomy and musculoskeletal anatomy, US enhanced learning of vascular structures, and US enhanced ability to evaluate trauma with FAST.
- ❑ The survey was evaluated based on three-point Likert scale options and data was averaged over the years 2020-2022.

## Results

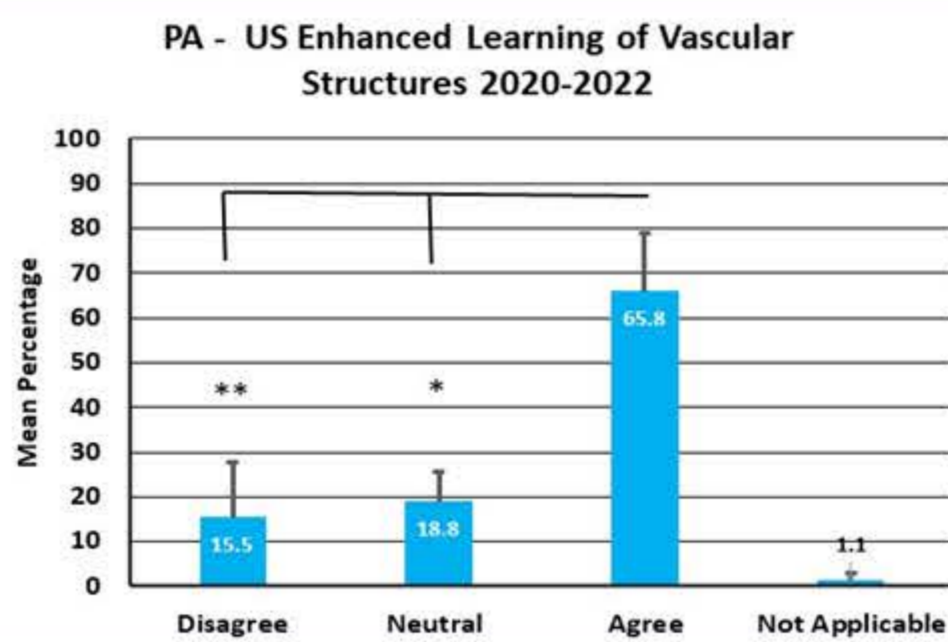


Figure 1. Bar graph of the PA curriculum Likert survey responses asking if the use of US enhanced learning of vascular structures during years 2020, 2021, and 2022. The data is expressed as mean percentage of students selected answer over 3 years with standard deviation. Student paired T-test - \*\* p<0.01, \* p<0.05

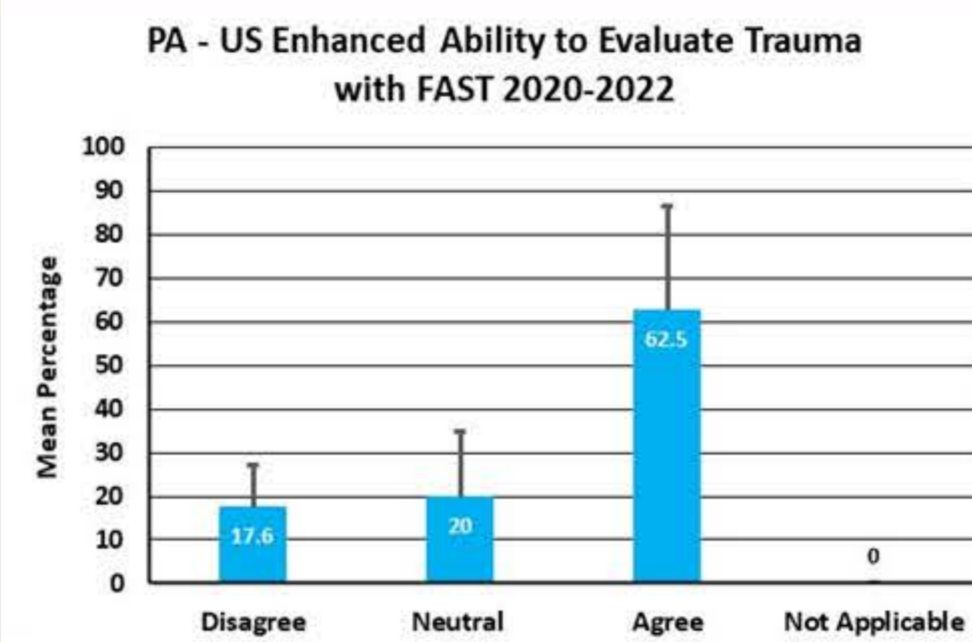


Figure 2. Bar graph of the PA curriculum Likert survey responses asking if the use of US enhanced ability to evaluate trauma with FAST exam during years 2020, 2021, and 2022. The data is expressed as mean percentage of students selected answer over 3 years with standard deviation. Student paired T-test - \* p<0.05

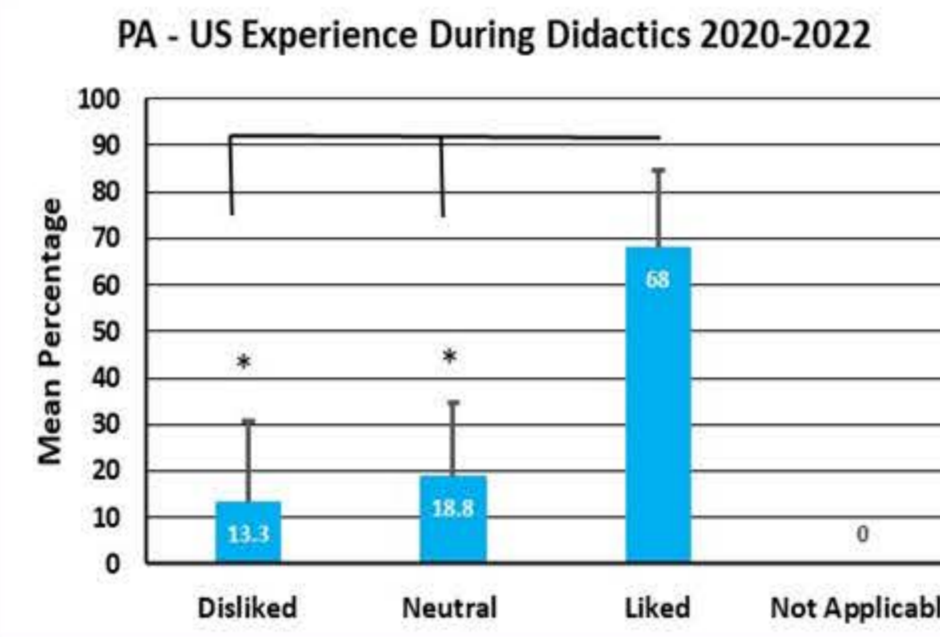


Figure 3. Bar graph of the PA curriculum Likert survey responses rating US experience during didactics during years 2020, 2021, and 2022. The data is expressed as mean percentage of students selected answer over 3 years with standard deviation. Student paired T-test - \* p<0.05

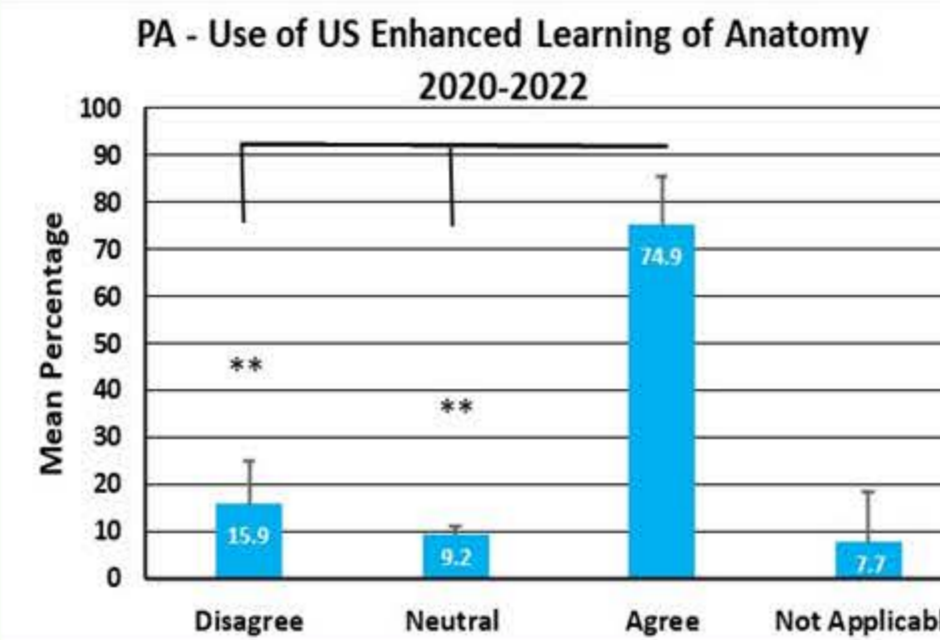


Figure 5. Bar graph of the PA curriculum Likert survey responses rating use of US enhanced learning of anatomy during years 2020, 2021, and 2022. The data is expressed as mean percentage of students selected answer over 3 years with standard deviation. Student paired T-test - \*\* p<0.01

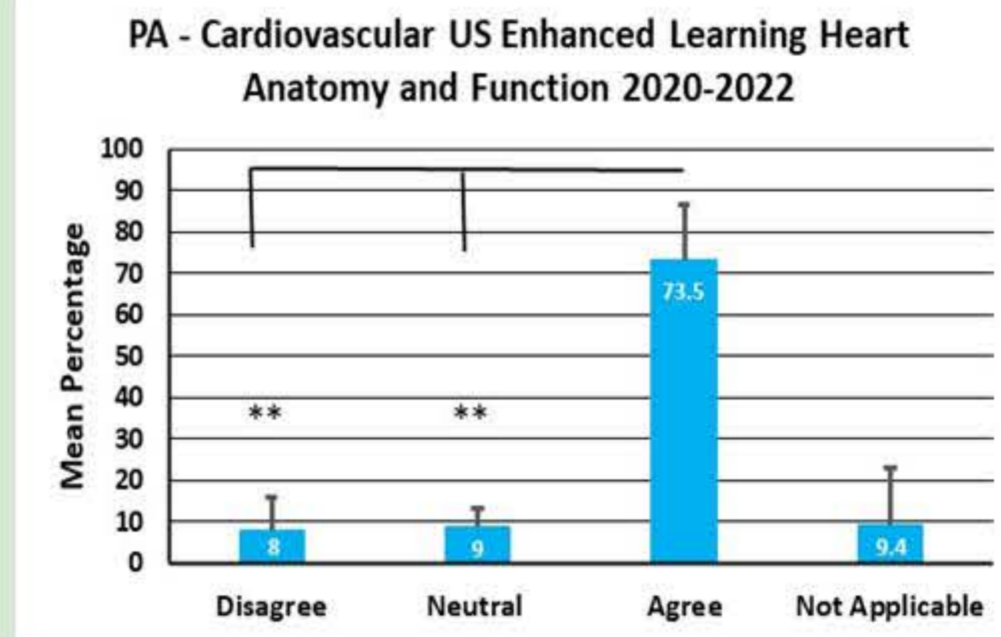


Figure 4. Bar graph of the PA curriculum Likert survey responses asking if the use of cardiovascular US aided learning of heart anatomy during years 2020, 2021, and 2022. The data is expressed as mean percentage of students selected answer over 3 years with standard deviation. Student paired T-test - \*\* p<0.01

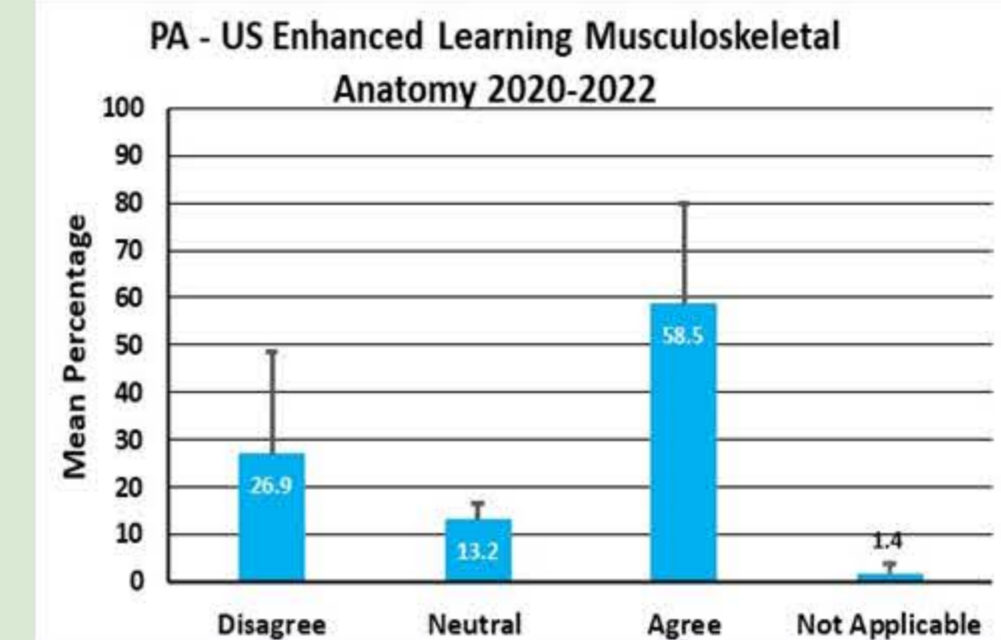


Figure 6. Bar graph of the PA curriculum Likert survey responses rating use of US in learning musculoskeletal anatomy during years 2020, 2021, and 2022. The data is expressed as mean percentage of students selected answer over 3 years with standard deviation. Student paired T-test - \* p<0.05

## Conclusion

- ❑ The students significantly favored ultrasound teaching or training in didactic lectures, anatomy, cardiac physiology, and vascular ultrasound.
- ❑ Muscular skeletal ultrasound and FAST exam were not significantly favored with the least favored.
- ❑ **A solid ultrasound curriculum for PA is well received at DMU and has room for improvement.**
- ❑ Areas of future improvement will be based in student evaluations and survey data.
- ❑ **DMU is committed to ultrasound training in the College of Health Sciences, and the PA program are leaders in advancing ultrasound within their college.**