INTRODUCTION

Regardless of the undergraduate program, incoming students matriculating to medical school face a unique challenge in learning how to handle the large volume of information they are presented with. With no effective transition level, students rely on study skills that worked in their undergraduate education but are no longer effective at the medical school level. This transition creates undue anxiety and stress that can lead to unhealthy habits with detrimental outcomes. To combat this lack of preparation, the authors designed TISSUE (Teaching Introductory Study Skills Utilizing Experience), a pre-matriculation course for incoming first-year medical students, taught by second year medical students, in order to help ease the transition from undergraduate education to medical school. TISSUE utilized a blended online/in-person course format to reach the greatest number of students. The goal of TISSUE was to give incoming M1 students at Philadelphia College of Osteopathic Medicine (PCOM) the opportunity to familiarize themselves with study habits and learning styles that they felt both comfortable using and were successful with. While the goal was not to teach academic content, the authors utilized concepts that students would encounter in their fall Structural Principles of Osteopathic Medicine (SPOM) course to give a more realistic experience to what students would be learning.

OBJECTIVE

The objective of this project was to create a course directed towards helping students with limited or negligible anatomy/histology credentials learn to utilize new skill sets to provide a smooth transition to the first term of medical school, thereby reducing stress. According to a meta-analysis by Dyrbye et al (Academic, 2006), medical school students suffer from higher rates of anxiety and depression than age grouped peers. The creators of TISSUE believe that a substantial amount of stress can come from being forced to adapt so quickly to the medical school environment. Therefore, TISSUE sought to identify high-yield content, test individual study habits and emphasize the importance of connecting lecture material to lab material. The authors believed this additional resource, given by second year students, would benefit participants by reducing anxiety and stress levels while increasing grades and extracurricular participation due to a familiarity with the material, peer support system and comfort with managing the volume of content.

METHODS

• The course began by conducting a poll of the previous year’s SPOM class to select topics that were felt to be difficult to grasp
  ○ The content that would be taught, while based on these suggestions, was then selected based on ease to teach, comfort of the instructors with subject material, amount of high-yield information and adaptability of study skill strategies.
• After the main lessons were identified, they were put into an order which roughly mirrored the SPOM course. This would allow students in TISSUE to get a better feel for the progression of the course and develop their strategies accordingly.
• The course objectives were then edited to include connections between additional classes and TISSUES students-health desired outcomes (Osteopathic Medicine, Primary Care Skills, study skills, peer networking).
• Lesson plans were created based on these objectives.
• Students were given the opportunity to evaluate their study strategies using two practical and two written exams. These were offered to both online and in-person groups.
• In the fall, TISSUE students were surveyed to determine areas of improvement and success. These will be used to adjust the course for subsequent years.

RESULTS AND DISCUSSION

Sample Lesson Objectives (Non-Content TISSUE Goals underlined)
Upper Arm/Axilla Anatomy (bone, muscle, major nerves):
1) The ability for students to name and identify the muscles of the shoulder and upper arm is important to various pathologies and clinical courses.
   a) Students will hypothesize how upper arm anatomy will be applicable in PCS and OMM courses.
   b) Students will be able to explain the interrelation of function, location and innervation of upper arm musculature.
2) Students will identify high-yield blood vessel locations in relation to the muscles of the upper arm:
   i) Students will design a way to identify these blood vessels on a radavcr that can be used during a practical.
   ii) Students will explore an online resource (such as Net Anatomy or Draw-It-To-Know-It) and use the resource to study the upper arm.

Why TISSUE focused on Non-Content Concepts

The reason for TISSUE’s focus on learning styles with academic facts as a framework in which to teach those skills is two-fold. Foremost was the core belief shared by the instructors that the way to learn is more beneficial than the amount of information taught. This mindset served the purpose of allowing the course’s objectives to be beneficial across multiple terms, not just the fall term. The other reason was that the amount of content that would need to be taught to achieve our goals was not realistic in the two week allotted time frame.

RESULTS AND DISCUSSION

Another study by Wilson and Henry et al (Teaching, 2011), showed similar data to the USF study. By allowing access to materials online for pre-matriculating students, those that accessed and those that completed the online course benefited academically over students who did not access the pre-matriculation materials. This program, like the one at USF, was much longer than TISSUE, beginning in June and running until August. Again, this period of time allows students to develop their own learning styles in a more gradual fashion unavailable to TISSUE participants.

In contrast to the Wilson and Henry study, the results of our program showed that the largest area of dissatisfaction was with the online portion of TISSUE. While some of the complaints were due to technological difficulties of streaming, a significant number were due to students desiring the in-person interaction with peers and the second-year student instructors with whom they could build a support system for both academic and personal use. This was one of the goals intended by the creators of TISSUE and one that was felt to be an invaluable support and learning system.

CONCLUSION

• TISSUE was a positive experience for the majority of students involved
• Informal follow-up with students confirmed that the content was correlated well to the material that was being taught in the fall term
• The brick-and-mortar students felt far more confident in, and connected to, the education they received, their peers and mentors than the virtual student body
• For more information about the development of TISSUE by our M2 group and the on-line component developed please attend the poster presentation A Blended Approach in a Pre-matriculation Course for Incoming Medicine Students (P41) and the oral presentation TISSUE: A Pre-matriculation Program Developed by Medical Students for Incoming Medical Students (O60).

REFERENCES

• Williams, M. T. (1999). Pre-matriculation Program at the University of South Florida College of Medicine. Academic Medicine, 74 (4), 357-9. doi:10.1097/00001888-199904000-00015