

Labs Online?

Collaboration, Inquiry, and Lab-based classes: A Design Sprint



IMSA is known for its innovative teaching style that emphasizes inquiry through labs and collaboration. Due to risks of the Coronavirus, IMSA is planning to begin the 2020-2021 school year with remote learning. Instead of in-person classes, students will meet over zoom and do their assignments online.

Education at IMSA relies on collaboration and the ability to interact in real-time with peers and teachers. Students need to witness labs upclose to draw conclusions together, but online learning prohibits this experience. With these classes come resources that the majority of students don't have at home (microscope, chemicals, etc). Students will not be able to understand the material as well when they lack resources and are relying on a solely virtual environment. Despite the use of "virtual labs", it does not provide students with the same experience. Inquiry and lab based classes would have little effectivity when done virtually, and students will learn less and with greater struggle.

Virtual learning negatively impacts students' futures, whether it be in later classes or even their post-IMSA pursuits. Students taking introductory courses (such as the SI, MI, or LE series) will have a weaker foundation because these courses are not meant to be taught remotely and teachers are not well-adjusted to changes in their teaching style and curriculum, as stated above. Building advanced concepts on a weak foundation will cause some students' academic futures to crumble. Learning online also affects students' grades negatively. Coupled with a difficult learning environment, students will also have a harder time reaching teachers and tutors to get help. Online learning also forces both students and teachers to remain stationary for long periods of time, deal with eye strain from computer screens, and does not allow for in-person interactions. Unpleasant learning experiences and an ineffective learning environment could potentially ruin a students' experience learning certain subjects. It could ruin their motivation and drive for learning.

Remote learning affects several groups at IMSA. Virtual learning especially impacts disadvantaged students who have trouble accessing reliable wifi at home or have strenuous homelife circumstances. IMSA allows them to focus solely on their education, but at home, they are plagued with not only a heavy workload but a heavy emotional load. On the teaching end, science staff and faculty are forced to change their curriculum and teaching style to adapt to the extreme shift of hands-on to virtual learning.

Labs Online?

Collaboration, Inquiry, and Lab-based classes: A Design Sprint

Virtual learning also puts IMSA's future at stake. Students and parents are dissuaded from attending the academy, and some of IMSA's biggest selling points are compromised. When students don't receive the education promised, IMSA builds a bad reputation. Eventually, less people will want to attend IMSA. The teachers and students can sponsor changes and new initiatives, but in the end the administration has decision making power.

To best address this problem, working with the teachers that teach these inquiry and lab based classes would be ideal to get everyone on the same page of what course of action should be taken. In the second half of the semester, some lab based teachers utilized online simulations or provided images and videos of what the lab should look like. In the end, they are the ones who have a great voice in how their classes function, which makes working with these teachers beneficial in developing a solution against this issue. Course objectives and course catalogs can be used to ensure that students are receiving the education they need from these courses. IMSA can also look to other boarding schools elsewhere to improve its own virtual learning systems.