Lessons Learned from Remote Teaching in an Internationally Dual Degree Program During the COVID-19 Pandemic

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Keywords

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Abstract

The COVID-19 pandemic forced education systems worldwide to adopt online teaching and learning. Faculty faced challenges to provide high quality instruction, activities and keep students engaged in a virtual classroom. International students residing outside the geographic location of their teaching institution faced additional challenges such as different time zones and inaccessibility to digital tools or sites due to internet censorship and unreliable internet connections. This extended abstract describes lessons learned from teaching lectures and laboratories, both synchronously and asynchronously, for English as a Second Language (ESL) students residing in China and enrolled in the internationally cooperative dual degree 3+1 Food Science Program established between the University of Nebraska-Lincoln (UNL) and Northwest A&F University (NWAFU, China) during the COVID-19 pandemic.

Instructor engagement with student in and outside the classroom is crucial for student success, satisfaction and retention [1]. These interactions are challenging when students are in different time zones or have restricted access to online discussion tools. Students engaged in asynchronous lessons were especially frustrated at their inability solve queries in “real-time”. Faculty solved these challenges with different methods for formal and informal communication i.e. Learning Management System (LMS i.e. Canvas), e-mail, synchronous office hours and group chats (i.e. QQ). According to a survey of 52 students enrolled in two asynchronous classes, 85% agreed or strongly agreed their communication with faculty was effective.

Remote synchronous lessons provided their own unique challenge, as students were not always able to connect consistently throughout the class. To aid student learning and decrease frustration, faculty recorded lectures and provided access to recordings. Attendance was not noticeably affected by access to recorded lectures and surveyed students regarded them as valuable learning tools. Research has shown ESL students are heavy users of recorded lectures and these recordings help them consolidate learning or “fill in” gaps [2] [3].

Active and hands-on learning are important components of STEM programs, providing students with valuable opportunities to practice class concepts. Faculty observed a consistent student engagement and interaction for synchronous classes (i.e. participation during and after class) when active learning components were included during lectures. Surveyed students appreciated the inclusion of questions, discussions and other activities in their lectures. Hands-on learning in the form of laboratories presented a challenge, especially when delivered asynchronously. Careful planning and re-evaluation of laboratories was important to determine how to achieve

the learning objectives for each session. For on-line asynchronous laboratories faculty either simplified the experiments allowing students to perform it at home or produced pre-recorded videos of experiments and gave students simulated data to do the analysis. When students were able to go back to NWAF but faculty was unable to travel abroad, instruction was comprised of pre-recorded short videos covering the theory (pre-lab video), procedures (in-lab video), and data processing (post-lab video). Students accessed the videos before and during laboratory sessions and successfully performed the experiments under supervision of NWAFU technical and faculty. In a survey of 52 freshman students enrolled in laboratory class (50% response rate), 95% of the sutdents agreed or highly agreed the pre-recorded videos helped them understand what they needed to do in each laboratory session.

Finally, checking software accessibility in advance and using more than one method (LMS, chat groups, e-mails) to deliver class material was also important for student success. As student's access to applications fluctuated over time, communication among faculty involved in the 3+1 program and regular check-ins with students helped instructors troubleshoot problems and keep reliable accessibility to class content with minimal disruptions to class progress.

Overall, remote teaching success encompassed adapting tools typically used to facilitate in-person classes to an online environment. Constant interaction and communication among instructors and with students played a central role to ensure everyone had the tools they needed to succeed.

References

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