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Lessons learned from implementing new technology as a trainer

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In recent years the advent of new technologies and their many uses have greatly increased the presence of technology-based applications in the laboratory animal sciences. These have spurred more institutions to rethink ways of incorporating software and technological equipment into their day-to-day workflow. In doing this, the typical considerations are budget, time and support, but one of the most overlooked necessities is training for the end users. Learning and acceptance of technology both depend on the end user's comfort level with technology, and such changes can be overwhelming to certain users. Add in strict deadlines, millions of dollars in research funds and stringent regulatory review of protocols, and there is a recipe for frustration and anger.

At my institution, the researchers, administrators and IACUC recently agreed to make a fresh attempt at implementing a new web-based IACUC software application. Our team of three IACUC trainers was called upon to help with this implementation, given that we are knowledgeable about lab animal science and IACUC processes, and we are competent with computers.

We began planning by inviting several principal investigators to a meeting to discuss the most important features that they wanted in an electronic system. We held similar meetings for the IACUC and veterinary staff; then we compiled our notes. This helped all parties feel positively invested in the initiative, and after a few sessions we determined our priorities and purchased the necessary software.

Next, we decided how to approach the implementation of this new software and

the conversion of protocol data from paper and a previous, unsuccessful software system. We considered either a 'mass rollout' of training and data conversion, with a hard cut-off date for all labs to adopt the new system, or a 'slow rollout', with concierge-style training for all new protocols or old protocols when due for renewal. We considered our available time and the low ratio of trainers to researchers and labs; we decided to meet with individuals as needed, without forcing them to wait for long periods, so we selected the 'slow rollout'. We first converted big labs with 10 or more protocols or protocols that were more sensitive or complicated. Afterwards we converted the new and renewing protocols as they arose.

This concierge approach made a big difference for the lab staff, as it gave them comfort and confidence to know that they would have access to a trainer throughout the protocol submission and approval process. Before each lab's first training session, the trainers prepared the system for them by setting up a 'lab library' home page with some basic information, so that members of the lab could see and reference pre-entered data as they learned the software. With some labs we entered this data as part of the training session. This approach worked well, especially with trainees for whom English was a second language. Most, however, preferred to see data pre-entered.

Once the first session, lasting 1–2.5 hours, was complete, trainees were given time to work in the system independently with the trainer nearby in case they had questions. After the first session, labs could

request additional training if they were having difficulty navigating the software. Extra training sessions were normally 30–45 minutes long and tailored for particular issues. It is generally recommended that training sessions for complicated technological processes like this one be split into multiple visits.

With so much information being taught, lab staff often required a second visit to help them respond to requests for changes within the system. Simple things had been forgotten, so it was beneficial to take time and retrain personnel to address reviewer comments correctly and make corrections appropriately. During a third training session we covered how to create various types of amendments to the 'lab library', including updating personnel, procedures and substances administered to the animals. We also found that phones, screen-sharing software and video chat were valuable options for us to incorporate into our training. This led us to adopt a combination of technological approaches, giving the labs the most effective blend of training styles.

Even though our story specifically concerns our implementation of an electronic protocol system, our methods of evaluation and implementation can be applied to any type of new technology. We learned to allow enough time for multiple follow-up training sessions; we learned to survey what end users want from technology, to carefully select the right team and plan, and to consider new or unusual teaching resources and media. These lessons can help other trainers and trainees achieve a successful rollout.

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