



September 2, 2022

Noelle E. Cockett, Ph.D.  
President  
Utah State University

Via e-mail: [Noelle.Cockett@usu.edu](mailto:Noelle.Cockett@usu.edu)

Dear President Cockett:

Thank you in advance for your time. I am writing on behalf of People for the Ethical Treatment of Animals U.S.—PETA entities have more than 9 million members and supporters worldwide—regarding the Advanced Analysis of Behavior undergraduate course (PSY 3400) at Utah State University (USU) that traditionally uses live pigeons during the lab portion of the course.<sup>1</sup> **Based on the information presented below, we urge you to replace the use of animals in PSY 3400 with effective, non-animal teaching methods that are the best-practice standard used at other universities.**

### Animal-Free Psychology Training Methods Are Effective

There are several engaging, effective, and cost-efficient non-animal methods available to teach students the course objectives of PSY 3400. Furthermore, USU already uses an “online rat simulator” and recently—during the COVID-19 pandemic—had students “participate in real live research by coding video for an ongoing study.”<sup>2</sup>

The interactive software programs described below allow students to design and conduct virtual experiments, observe animal behavior, and collect and analyze data—all without using or killing animals. Studies show that simulation programs are effective for teaching undergraduate<sup>3,4,5</sup> and graduate<sup>6,7</sup> students of psychology and neuroscience.

<sup>1</sup>Department of Psychology, Utah State University. (n.d.). USU psychology community shares successes during COVID-19. Accessed August 30, 2022.

<https://psychology.usu.edu/news/psychology-successes-COVID-19>

<sup>2</sup>Department of Psychology, Utah State University. (n.d.). USU psychology community shares successes during COVID-19. Accessed August 30, 2022.

<https://psychology.usu.edu/news/psychology-successes-COVID-19>

<sup>3</sup>Bish JP, Schleidt S. Effective use of computer simulations in an introductory neuroscience laboratory. *J Undergrad Neurosci Educ.* 2008;6(2):A64–A67.

<sup>4</sup>Evert DL, Goodwin G, Stazvener AJ. Integration of computer technology into an introductory-level neuroscience laboratory. *Teach Psychol.* 2005;2(1):69–73.

<sup>5</sup>Griffin JD. Technology in the teaching of neuroscience: Enhanced student learning. *Adv Physiol Educ.* 2003;27:146–155.

<sup>6</sup>Sheen J, Sutherland-Smith W, Thompson E, et al. Evaluating the impact of simulation-based education on clinical psychology students’ confidence and clinical competence. *Clin Psychol.* 2021;19:23125.

<sup>7</sup>Naude L, Botha A. It’s a virtual child! Postgraduate students’ experiences in a developmental psychology class. *Perspect Educ.* 2017;35(1):54–65.

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Comparative studies have found that students taught with these and other<sup>8</sup> non-animal methods learned as well as or better than their peers who used animals.<sup>9</sup>

### **Experts and Students Oppose the Use of Animals in Experiments**

Studies show that, depending on the procedure, as many as 42% of psychologists and 60% of psychology students oppose the use of animals in psychology education,<sup>10</sup> and the majority of psychologists and psychology students believe that live-animal experimentation should not be required in undergraduate psychology courses.<sup>11</sup>

Similarly, the growing majority of college-aged adults are opposed to all experiments on animals.<sup>12</sup> Employing non-animal educational tools creates an inclusive, engaging, and safe learning environment for all students, including those uncomfortable with animal experimentation.

### **The American Psychological Association Encourages the Use of Non-Animal Training Methods**

The American Psychological Association's (APA) "Guidelines for Ethical Conduct in the Care and Use of Nonhuman Animals in Research" states, "Consideration should be given to the possibility of using non-animal alternatives. Some procedures that can be justified for research purposes may not be justified for educational purposes."<sup>13</sup> In its "Resolution on the Use of Animals in Research, Testing, and Education," the APA mandates that "the development and use of complementary or alternative research or testing methodologies, such as computer models, tissue, or cell cultures, be encouraged where applicable and efficacious."<sup>14</sup>

### **Numerous Non-Animal Training Methods Are Available**

For the specific experiments conducted in PSY 3400, a number of non-animal methods would allow instructors to meet course objectives. Here are a few examples.

- **Sniffy the Virtual Rat:**<sup>15</sup> This engaging, interactive software provides students with a virtual laboratory in which they can explore operant and classical conditioning through experiments that demonstrate most of the major conditioning phenomena discussed in textbooks on the psychology of learning. It has been field-tested at several colleges and universities for use in learning and animal-behavior courses and

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<sup>8</sup>Patronek GJ, Rauch A. Systematic review of comparative studies examining alternatives to the harmful use of animals in biomedical education. *J Am Vet Med Assoc.* 2007;230(1):37–43.

<sup>9</sup>Patronek GJ, Rauch A. Systematic review of comparative studies examining alternatives to the harmful use of animals in biomedical education. *J Am Vet Med Assoc.* 2007;230(1):37–43.

<sup>10</sup>Cunningham PF, Randour ML. Alternatives to the use of animals in education. *Psychology Teacher Network.* 1998;8(4):8–11.

<sup>11</sup>Cunningham PF. Animals in psychology education and student choice. *SocAnim.* 2000;8(2):191–212.

<sup>12</sup>Goodman JR, Borch CA, Cherry E. Mounting opposition to vivisection. *Contexts.* 2012;11(2): 68–69.

<sup>13</sup>Dunbar G, Higa J, Jones T, Kaminski B, Panicker S. Guidelines for ethical conduct in the care and use of nonhuman animals in research. American Psychological Association Committee on Animal Rights Research and Ethics. 2012:1–9.

<sup>14</sup>American Psychological Association. (n.d.) Resolution on the use of animals in research, testing, and education. 1990. <https://www.apa.org/science/leadership/care/animal-resolution.pdf>

<sup>15</sup>Sniffy the Virtual Rat. Accessed August 30, 2022. <http://www.sniffythevirtualrat.com/>

was used as a practical, successful replacement for live animals in an undergraduate neuroscience course.<sup>16</sup>

- **(AI)<sup>2</sup> Inc.’s CyberRat Operant Laboratory Simulations Program:**<sup>17</sup> CyberRat is a digital, fully interactive video of a real animal in a laboratory. Its database contains more than 1,600 behavioral video clips, all seamlessly played back in unique sequences using stochastic algorithms. Student recordkeeping and data archives are maintained in order to give instructors easy access to student progress summaries. When used in introductory psychology laboratories, CyberRat “serves as a functional supplement and/or total replacement for various live animal laboratory exercises using rats.”<sup>18</sup> It is otherwise described “as close to an actual behaving animal as you can get,”<sup>19</sup> offering “a near perfect illusion of being a single animal that quite realistically demonstrates basic operant conditioning phenomena embedded in a flow of natural behaviors.”<sup>20</sup>
- **The Learning Simulator:**<sup>21</sup> The Learning Simulator is an open-source software program that simulates learning in humans and other animals, including the acquisition and extinction of behavior, learning of behavioral sequences, and various social-learning scenarios.<sup>22</sup> It is used for research in scientific publications<sup>23,24,25</sup> as well as in teaching at the master’s program in ethology at Stockholm University, the veterinary program at the Swedish University of Agricultural Sciences, and the psychology department at Brooklyn College of the City University of New York.<sup>26</sup>

Beyond computer-based learning methods, psychology educators have developed other pedagogical tools that allow students to observe and document the behavior of humans and other animals using harm-free methods, including the following.

- **Field studies:** Students who studied wild pigeons in a city park received evaluation scores equal to those of students who studied operant conditioning using rats in a traditional lab.<sup>27</sup> Other studies have found that having students in psychology-of-learning courses work with animals in an institutional setting—such as an animal

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<sup>16</sup>Alloway T, Wilson G, Graham J. *Sniffy the Virtual Rat Pro, Version 2.0*. Wadsworth Cengage Learning; 2005.

<sup>17</sup>(AI)<sup>2</sup> Inc. CyberRat. Accessed August 30, 2022. <http://www.ai2inc.com/HomeProducts/cyberRat.html>

<sup>18</sup>Ray R, Miraglia K. A sample of CyberRat and other experiments: Their pedagogical functions in a learning course. *J Neurosci Res*. 2011;9:44–61.

<sup>19</sup>Phelps B. How close to real can a non-real CyberRat behave? *Behavior and Philosophy*. 2011; 39/40:309-315.

<sup>20</sup>Iverson I. Commentary on CyberRat. *Behavior and Philosophy*. 2011;39/40:303–307.

<sup>21</sup>The Learning Simulator. Accessed August 30, 2022. <https://www.learningsimulator.org/>

<sup>22</sup>The Learning Simulator. Education. Accessed August 30, 2022.

<https://www.learningsimulator.org/education>

<sup>23</sup>Ghirlanda S, Lind J, Enquist, M. A-learning: A new formulation of associative learning theory. *Psychon Bull Rev*. 2020;27:1166–1194.

<sup>24</sup>Lind J. What can associative learning do for planning? *R Soc Open Sci*. 2018;5:180778.

<sup>25</sup>Lind J, Ghirlanda S, Enquist M. Social learning through associative processes: A computational theory. *R Soc Open Sci*. 2019;6:181777.

<sup>26</sup>Jonsson M, Ghirlanda S, Lind J, Vinken V, Enquist M. Learning Simulator: A simulation software for animal and human learning. *J Open Source Softw*. 2021;6(58):2891.

<sup>27</sup>Cohen PS, Block M. Replacement of laboratory animals in an introductory-level psychology laboratory. *Humane Innovations and Alternatives*. 1991;5:221–225.

shelter—is an effective way to teach operant conditioning, and this method offers many benefits that are not available in classroom animal laboratories.<sup>28,29</sup>

- **Non-animal classroom experiments:** The principles of operant conditioning have also been practically and clinically applied to humans, and educators have developed programs for applying these concepts to classroom laboratory activities.<sup>30,31</sup> As most psychology experiments using animals are designed to model human behavior, allowing students to learn basic psychological principles with virtual software and then apply them to studies involving human volunteers would be the most comprehensive way to teach basic research principles, ethics, and applications in an undergraduate psychology course.

There is simply no need to harm animals in order to prepare students for careers in brain science, and it is critical that young psychologists and neuroscientists know this—otherwise, we risk alienating talented and compassionate people from the field.

We hope to work with your psychology department to replace its classroom experiments on animals with more effective, humane, non-animal educational tools. Such a transition would align with current best-practice standards used by other universities that have already switched to animal-free methods.

You can contact me at [MaggieW@Peta.org](mailto:MaggieW@Peta.org). Thank you for your consideration of this important matter. We look forward to your response.

Sincerely,



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<sup>28</sup>Flaisher-Grinberg S. For the love of dogs: An academia-community partnership targeting a mutual goal. *The Journal of the Center of Interdisciplinary Teaching and Learning*. 2021;9(1):8–15.

<sup>29</sup>McDonald TW, Caso R, Fugit D. Teaching and learning operant principles in animal shelters: Perspectives from faculty, students, and shelter staff. *J Instr Psychol*. 2005;32(4):310–321.

<sup>30</sup>Shields C, Gredle M. A problem-solving approach to teaching operant conditioning. *Teach Psychol*. 2003;30:114–116.

<sup>31</sup>Chrisler JC. Conditioning the instructor’s behavior: A class project in psychology of learning. *Teach Psychol*. 1998;15:135–137.