**2016 Technology Grant Request**

**Psychology: Cognitive Experimental Software**

**Executive Summary**

Cognitive psychology is largely an experimental field. Although the Behaviorists limited themselves to examining only visible stimuli and responses, cognitive psychologists have been extremely creative in developing effective research paradigms for examining the contents of the “black box” – the mind. Many of these experimental techniques rely on computers to sequence precisely timed presentation of stimuli and precisely record the content and timing of responses, down to milliseconds. An example of such an experiment is the widely used Implicit Association Task (<https://implicit.harvard.edu/implicit/takeatest.html>) that was recently recommended to ASU employees by the CIELO group as a means of revealing unconscious biases. The design of these types of experiments requires one of several software packages allowing the experimental steps to be programmed: presentation of instructions, presentation of stimuli (text, pictures, video), capture of data (response time, response accuracy, error rates, etc.). Basically, they are a more sophisticated version of survey programs like SurveyMonkey.

Everyone in the Psychology Department supports the purchase of one of these programs, E-Prime 2.0 for our Psychology Lab. Having E-Prime would expand the types of experiments that could be performed by students and faculty. Other social sciences and the Business Department might be interested in using this platform as well. We are open to sharing our experiences with other departments and making the equipment available to other departments whenever we are not employing it.

**Principal Investigator Contact**

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1. **Description of Technology**

**1 E-Prime 2.0**

Our lab already has a computer available to host E-Prime.

1. **Project Description**

We plan to purchase E-Prime and install it on an existing computer in our Psychology Lab.

Students taking Cognitive Psychology are required to design an experimental study. A major purpose of this assignment is to encourage them to expand their “research toolkit” with techniques pioneered by cognitive psychologists. To date, we have been a little disappointed in the number of students who have embraced such tools. Clearly, lecturing about these tools and reviewing studies that use them have not made these tools sufficiently concrete for students. If we purchase E-Prime, we will develop an E-Prime-based experiment as an in-class project. This would make its use less formidable and more concrete. As a result, we hope more students will design E-Prime studies of their own, either for the required individual project or for other courses later on. Because Cognitive Psychology is a required course, no student could graduate from our program without exposure to E-Prime. This would be very beneficial for students going on to graduate school, as the Psychology GRE typically contains questions about experimental cognitive psychology, and many graduate students are required to use a package like E-Prime.

Beyond Cognitive Psychology, students in Research Methods (required course) are required to design and perform an original study. E-Prime would offer them additional options for these studies. Similarly, many of our non-required courses involve or focus on original research: Psychological Testing and Assessment, Honor’s Seminar, Independent Research, Independent Study, and Honor’s Thesis. Students in all of these courses could benefit from having E-Prime available in our lab.

As students and faculty get more adept at using E-Prime, we anticipate E-prime-based research being presented at Student Scholar Days and external psychology conferences.

1. **Project Evaluation**

Because undergraduate research is important to the Psychology Department and Adams State recruitment and retention efforts, we plan to track how many projects per year employ E-Prime. If purchased, we would make this expansion of research part of our departmental assessment plan. We anticipate that such studies will eventually be presented at Student Scholar Days, the Rocky Mountain Psychological Association Conference, and the Association for Psychological Science Conference, among others.

1. **Project Sustainability**

Many undergraduate programs and virtually all graduate programs in psychology use a package like E-Prime. Thus, it is important that we upgrade the technology in our lab to keep up with the professional demands of the discipline. Due to this fact and our intent to use E-Prime in required courses, we anticipate continuing its use indefinitely.

1. **Budget**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** |  | **Qty** | **Price** | **total** |
| E-Prime 2.0 |   | 1 | 995.00 | 995.00 |
|  |  |   |   |   |
|  |  | **Grand Total** | **995.00** |

The E-Prime license allows E-Prime to be installed on up to 25 computers, all of which can then run E-Prime experiments to collect data. However, the license comes with a single hasp key, restricting the design of experiments to one computer at a time. Given the size of our department and the type of class project planned for Cognitive Psychology, this should be fine without purchasing additional licenses. E-Prime is a one-time purchase; there are no yearly renewal fees.

1. **Population Groups Served**

The addition of this technology to the Psychology Department would serve all ASU students in the Psychology Department and potentially in other social sciences and Business. Students taking Cognitive Psychology would be required to use E-Prime, as the course would add a requirement to develop an experiment using it. Cognitive Psychology is a required course; no student could graduate from our program without exposure to E-Prime. This would be very beneficial for students going on to graduate school, as the Psychology GRE typically contains questions about experimental cognitive psychology, and many graduate students are required to use a package like E-Prime.

Beyond Cognitive Psychology, students in Research Methods (required course) are required to design and perform an original study. E-Prime would offer them additional options for these studies. Similarly, many of our non-required courses involve or focus on original research: Psychological Testing and Assessment, Honor’s Seminar, Independent Research, Independent Study, and Honor’s Thesis. Students in all of these courses could benefit from having E-Prime available in our lab.

1. **Faculty and Staff members**

The entire Psychology Department: Dr. Kim Kelso, Dr. Rob Demski, Dr. Leslie Alvarez, Dr. Jeff Elison, Dr. Nate Pipitone, Dr. Robert Kirk

Dr. Jeff Elison: Courses: Cognitive Psychology & Psychological Testing and Assessment

Drs. Kim Kelso & Rob Demski: Research Methods

All Psychology professors: Honor’s Seminar, Independent Research, Independent Study, Honor’s Thesis

1. **Results Dissemination Plan**

We anticipate that E-Prime studies will eventually be presented at Student Scholar Days, the Rocky Mountain Psychological Association Conference, and the Association for Psychological Science Conference, among others. We also plan to report back to FTAC the number of projects and students employing E-Prime.