

Innovative Technology for Innovative Teaching and Research:
A Proposal for the Innovative and Creative Undergraduate Teaching Grant

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INNOVATIVE TECHNOLOGY FOR INNOVATIVE TEACHING AND
RESEARCH

Abstract

This proposal aims to obtain funds for the purchase of 20 iPad mini's, protective equipment for each, charging equipment, data syncing equipment, and protection plans for each of the iPads. The purpose of obtaining the iPads is to use them as tools in current research classes to give student's specialized skills in collecting and analyzing qualitative and quantitative research. The plan will also enable long term growth through the development of a qualitative research class that will be offered interdepartmentally and increasing the overall capacity of the college to gather, analyze, and publish information with the aid of our undergraduate students.

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Innovative Use of Technology in Undergraduate Learning and Research

The purpose of this proposal is to obtain funds to fundamentally change, enhance, and enliven research courses taught in the College of Social and Behavioral Science. Currently, research classes are taught as they always have been: through the use of didactic lecture and discussion. Due to the challenging nature of the class students rarely walk away from the class with the wonder and awe of research and the joy of adding to the edifice of knowledge. Reasons for this might include the necessity of understanding a new language of knowledge creation, technicalities that ensure that studies are done correctly to ensure maximum validity, and the enormous expense that is often required to make good science happen. In short, there is a lot to learn and few opportunities to practice the skills of the class.

I believe I have a solution that will significantly enhance the learning experience of the students in the research classes and give them the ability to practice research on a whole new level. Fortunately, we live in a technology-enhanced world where the tools used to collect data are more ubiquitous and accessible. One of those great tools is the iPad Mini. This tool, created by Apple™ offers a large array of tools that can be used to make research practice easily integrated into classrooms. With the proper direction, such a tool becomes a veritable Swiss Army Knife, full of aspects that make everyday data collection simple, easy, and easily integrated with existing infrastructure offered at Weber State.

If funded, the project would obtain funds to purchase some 20 iPad Mini's, protective coverings, insurance, and a charging station for them. I understand that iPads are a frequently requested item in technology grants, but the particular iPads requested in

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this proposal will serve specific purposes. The iPad Minis come with a variety of built in tools that are excellently designed to collect data. All iPad Minis come with cameras that can be used for both photo and video data collection. iPad Minis have microphones with built in recording capacity. iPad Minis are also compact, lightweight, durable, and intuitive in their use, making the learning curve for their use minimal. Finally, iPad Minis are compatible with current infrastructure used at Weber State, such as ChiTester, Canvas, Qualtrics, and Microsoft equivalent software for documents, spreadsheets, and presentations. All of these tools would be used in the classroom to enhance learning.

Once funded, the iPads would be purchased and prepared for use in the classroom. This preparation would include setting up a Weber iTunes Account for the group, setting up tracking systems for them (to find them in case they are lost), installation of apps used to aid the research class, and the addition of documents that will serve as useful guides to the students during their coursework such as documents with a simple breakdown of research procedures, definitions, and tips for data collection. Apps to be added would include Canvas for classroom management, ChiTester for test taking, Qualtrics for quantitative data collection and survey creation, and ATLAS.ti for gathering and analyzing qualitative data such as interviews, content analysis, and visual mediums such as videos and pictures. Finally, each would be equipped with Pages (Microsoft Word equivalent), Numbers (Microsoft XL equivalent) and Keynote (Microsoft PowerPoint equivalent). Each app would have helpful documents already loaded on to them to make the research course easier to access.

If funded, the iPads would be introduced into one Social Work Research (SW 3700) in Fall 2014. At the beginning of the semester, each student would be introduced

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to the iPads, instructed in their use, and taught the goals of the class: to have the students use the iPads to collect qualitative and quantitative data around campus, work, and practicums. The class would decide together on a project they could all work on, and then collect data for the project throughout the course. Towards the end of the course, the student would be able to use the tools to analyze the data they collected, and then use iPads to present the data they had collected. By the end of the course, the students will be able to:

1. Describe all the necessary steps to creating and following through with research proposals and studies.
2. Evaluate and integrate scientific tools in social science research.
3. Design, develop, and implement social science research projects independently.
4. Apply gained skills in graduate level research courses.

Getting the hands on experience of creating, planning, and implementing and entire research projects, instead of just learning about them, promises to make the experience of the activity more real and memorable. On top of that, the opportunity to work on actual research will give them the opportunity to be published; an activity that adds to the honor of Weber State and will make admissions to graduate programs all the easier for our students.

Evaluation will follow a quasi-experimental evaluation. Students will sign up for one of two social work research courses Fall Semester 14. At the beginning of the courses, students would take a brief demographic and research knowledge survey. The demographics would be used to ensure the groups are comparable and the research knowledge would be used to establish a baseline of research knowledge. At the end of the courses, students would take the same research knowledge test, aimed at seeing if they met the objectives listed above and to see how much they had learned from the

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course. Course feedback would also be sought throughout the course to ensure that the class is following best practices based on the needs of each student. The best part is the use of iPads would greatly facilitate this process. This process of data collection will be finished by the end of Fall Semester, so that the knowledge based on the class with the iPads would be able to be shared and implemented in other classrooms. We will know that this project has been successful if data collected shows evidence that the goals were met, that the research class with iPads did better than the class without iPads, and if we have an increase in students who are interested in or in the process of getting published. Also, If enough positive data is collected supporting the use of iPads as research tools, a paper would likely be published about the results.

Following the first semester, this project would be implemented to all of the social work research courses with the knowledge gained from the first course. The knowledge and feedback from the first course would then be used to put together a specialized qualitative research course- made available to the entire college. Multiple conversations with department chairs in the College of Social and Behavioral Sciences have indicated a high level of interest in having such a course taught. The knowledge gained through the first course would also be shared with other departments within the college so that they may emulate the practices to fit their own disciplines.

In terms of sustainability, this program will only require a one-time grant to make a long-term benefit. Once the iPads and the corresponding equipment have been purchased, ongoing maintenance of the equipment is minimal, and they can continue to be used in classes long into the future. The biggest additional cost associated with a project at this scale is memory and data management. To help manage this, an additional

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Apple Computer (Mac Mini) is added to the proposal to help with data synchronization and an external hard drive to store the data over the course of the years. The Mac Mini is the most affordable and efficient way to quickly synchronize data and can be integrated with existing equipment. External hard drives are also low in cost, easy to store, and inexpensive to upgrade if necessary.

I believe this simple proposal promises to take the best advantage of the purpose of this grant. It will use modern technology in innovative ways; add to the specialization of academic skills to our undergraduate students, and promises to make a long-term impact with one investment into the program. Thank you for your consideration and please feel free to contact me if you have any questions or concerns.

Innovative Teaching Grant Budget

Item	Individual	Quantity	Total Price
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	Cost		
iPad Mini	\$399	20	\$7,980.00
iPad Covers	\$50	20	\$1,000.00
Apple Care	\$99	20	\$1,980.00
iPad Mini Mobile Charging Station	\$925	1	\$925.00
Mac Mini	\$799	1	\$799.00
3 TB Ex Hard Drive	\$179.95	1	\$179.95
Total			\$12,863.95