IPads for planning, preparing, teaching, assessment data collection, reflection on teaching and teacher observations in alternative teaching settings such as the gym or outdoors

Rational:
Practicum teaching experiences and career teaching in the discipline of physical education are done mostly in alternative classroom settings such as a gym or an outdoor area where technology is rarely available and yet desperately needed. Even desktop computers are not available in most alternative settings where physical education teachers teach. As such, teachers in the K-12 setting are often expected to use an IPad because of its portability for reporting attendance and assessment data while in the alternative teaching setting. There is an increasingly growing number of physical education apps available to physical educators such as those related to anatomy and physiology of movement, injury prevention, curriculum learning indicator assessments, on the spot first aid, skill performance video analysis, fitness assessments, score board, and asthma alerts. Other applicable apps for the physical education student are those for analysis of teaching. There are also you tube videos of skills and plays that are used to demonstrate desired skill performance to name just a few.

The National Standards for Initial Physical Education Teacher Education (2008) established by the National Association for Sport and Physical Education [NASPE] provide six standards with various elements under each standard regarded as required skills necessary for students graduating in the field of physical education. Our goal is to prepare our physical education students with the up to date skills needed to compete for jobs in the educational setting. The standards and elements of student learning that will be facilitated through this project are listed below.

Standard 1: Scientific and Theoretical Knowledge
Physical education teacher candidates know and apply discipline-specific scientific and theoretical concepts critical to the development of physically educated individuals.
Elements – Teacher candidates will:
• 1.5 Analyze and correct critical elements of motor skills and performance concepts.

Standard 3: Planning and Implementation
Physical education teacher candidates plan and implement developmentally appropriate learning experiences aligned with local, state and national standards to address the diverse needs of all students.
Elements – Teacher candidates will:
• 3.4 Plan for and manage resources to provide active, fair and equitable learning experiences.
• 3.7 Demonstrate knowledge of current technology by planning and implementing learning experiences that require students to appropriately use technology to meet lesson objectives.

Standard 4: Instructional Delivery and Management
Physical education teacher candidates use effective communication and pedagogical skills and strategies to enhance student engagement and learning.
Elements – Teacher candidates will:
• 4.1 Demonstrate effective verbal and non-verbal communication skills across a variety of instructional formats.
• 4.2 Implement effective demonstrations to link physical activity concepts to appropriate learning experiences.
• 4.3 Provide effective instructional feedback for skill acquisition and student learning.

Standard 5: Impact on Student Learning
IPads for planning, preparing, teaching, assessment data collection, reflection on teaching and teacher observations in alternative teaching settings such as the gym or outdoors

Physical education teacher candidates use assessments and reflection to foster student learning and inform decisions about instruction.

Elements – Teacher candidates will:

- 5.1 Select or create appropriate assessments that will measure student achievement of goals and objectives.
- 5.2 Use appropriate assessments to evaluate student learning before, during and after instruction.
- 5.3 Utilize the reflective cycle to implement change in teacher performance, student learning and instructional goals and decisions.

Department IPads have been purchased and have been available for classroom use only and are often in use at the times I have needed them for my classes and they are not available for long term or overnight check out. (See attached IPad checkout calendar for two different, yet typical, weeks during Fall Semester 2013 as taken from Google calendar.)

Depth of Impact: This project will:

- Provide WSU students the opportunity to learn about and have access to the latest technology available and currently in use in K-12 school settings that will be expected as graduates of a quality program.
- Provide WSU students the opportunity check out the IPad to plan, prepare through research, and write lesson plans using current technology for their practicum teaching experiences as will be required as a K-12 teacher.
- Allow WSU students to analyze K-12 student skill performance.
- Allow WSU students to assess K-12 student learning through the use of new technology.
- Enable WSU student peers to capture photos/videos of WSU students teaching in the practicum setting and evaluate that teaching with the use of systematic observation tools accessed by the technology.
- Provide immediate feedback from teaching observations made by their peers and the instructor that are sent directly to the WSU student and the instructor for further reflection on the teaching experiences, enabling planning for future improvements.
- Offer a career practical perspective on student learning.
- Enhance the learning environment through technologically based engagement.
- Encourage collaboration between students, instructors and K-12 cooperating teachers.
- Provide real life experiential learning that will prepare for future career possibilities.

Breadth of Impact: This project will:

- Provide up to date learning in physical education teacher education for students registered in the PEP 3520 Curriculum and Assessment class and PEP 3520L Curriculum and Assessment Lab and PEP 4990 Senior Seminar as well as other methods of teaching classes in the physical education program. There are typically 20-30 students in the 3520 course each year, 20-30 students in the Lab and 20-30 students in the 4990 course each year. These students are also registered in one to two other methods of teaching classes each semester in which the IPads may also be used.
- Sustain itself for 4-5 years of use. After the initial 4-5 years I will re-evaluate the current technology use in the K-12 school setting and write for further funding if needed. Increasing student fees to cover replacement would be an unjustifiable cost for students.

Innovative and Creative Undergraduate Teaching Grant Proposal January 2014
IPads for planning, preparing, teaching, assessment data collection, reflection on teaching and teacher observations in alternative teaching settings such as the gym or outdoors

Measurement: This project will:
• Enable students to demonstrate their ability to analyze skill performance, prepare, create, demonstrate, communicate, teach using technology, assess K-12 student learning, reflect, observe and evaluate good teaching. This will be evident in their teaching and in the lesson plans and in their reflection on teaching.
• Enable students to evaluate various apps available for physical education and use them in a K-12 practicum teaching experience. Students will be required to use and evaluate two different available apps.
• Enable students to evaluate their peers while teaching using the available teacher observation apps now available. These apps are similar to those that will be used by faculty members to evaluate their own teaching in later semesters.
• Provide evidence of student achievement of NASPE elements 1.5; 3.4, 7; 4.1, 2, 3; 5.1, 2, 3 as described above and in the Detailed Assessment Plan.

Accountability: This project will:
• Begin Fall semester 2014 after the purchase of the latest IPad available at that time.
• Allow the purchase of twenty 32 GB IPads at $529 each (December 30, 2013 WSU bookstore price) with Smart Protective Case at $49 each and screen protectors at $15 each.
• Allow the purchase of a Tablet Storage and Charging Station accommodating 24 IPads at $575.63 including shipping. https://www.schooloutfitters.com/catalog/product_info/pfam_id/PR043961?sc_cid=Google_LUX-LLTM24-B&adtype=pla&kw=&CAWELAID=1786756495
• Allow students opportunities and the means to accomplish assignments related to the research and usage of physical education apps, skill and fitness assessment using technology, providing visual feedback to learners, utilizing teaching observation tools, and reflecting on teaching using technology.
• Provide a research venue on learning and using technology based assessment techniques for undergraduate students.
• Allow for presentation of findings of the project at the National Physical Education Teacher Education [PETE] conference held in October 2015.

Description of the Innovation:
This innovative approach to teaching includes the purchase of and required use of IPad technology in classes where WSU students are preparing to teach in the k-12 school setting where IPads are regularly used. The learning objectives of this project are focused on NASPEs standards for initial teachers, see above descriptions, whereas students need to be prepared to enter the job market with up to date skills related to the use of technology in planning, preparing, assessment and content delivery in an alternative classroom setting such as the gym or outdoors. WSU students will be able to use current technology to accomplish each of the listed elements including analyzing skill performance, planning learning experiences, providing demonstrations, explanations and instructional cues and prompts to link physical activity concepts to appropriate learning experiences, providing feedback, assessing student learning, reflecting on teaching practices, and providing instructive feedback to peers.

Preliminary Evidence:
Previously, students were using their own voice to instruct and their own or a student’s demonstration to show how to accomplish a skill and their own eye to detect student performance errors. They have been using paper and pencil to record fitness and skill assessments of their practicum students. They
I Pads for planning, preparing, teaching, assessment data collection, reflection on teaching and teacher observations in alternative teaching settings such as the gym or outdoors

have used paper and pencils to provide systematic observation feedback on teaching to their peers and students, finally, receive that feedback several days later. With the new technology available, You tube, Coach’s Eye, Slo Pro, Dartfish Easy Tag, Heart Rate Monitor, iMuscle, Virtual Heart, Easy Assessment, and Evernote, [http://ictforeducators.com/2013/01/integrating-technology-in-pe.html](http://ictforeducators.com/2013/01/integrating-technology-in-pe.html), and Interactive QR Skill Posters [http://www.thephysicaleducator.com/resources/skill-posters/volleyball/](http://www.thephysicaleducator.com/resources/skill-posters/volleyball/) for skill demonstrations, teaching can become state of the art. Our students will be better served and prepared for their future job opportunities if they are given the training in the new technology during their education at Weber State University.

**Implementation:** Beginning Fall Semester 2014 the new technology will be utilized in:
- PEP 3520 Curriculum and Assessment in Physical Education (3 cr)
  - Enrollment 10-15 students per semester, both fall and spring semesters
- PEP 3520L Curriculum and Assessment in Physical Education Lab (1 cr)
  - 2 sections, enrollment 8 per section, both fall and spring semesters
- PEP 4990 Senior Seminar and Field Experience (3 cr)
  - Enrollment 10-15 students per semester, both fall and spring semesters

**Detailed Assessment Plan**
The learning objectives, NASPE elements, will be evaluated as described in the following table.

<table>
<thead>
<tr>
<th>Learning objectives, NASPE elements</th>
<th>Evaluation procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5</td>
<td>WSU students will be required to use an app to analyze and correct skill performance for three K-12 students they teach and submit that analysis and the video if used.</td>
</tr>
<tr>
<td>3.4</td>
<td>WSU students will be required to offer every K-12 student in the class they teach the opportunity to have access to the technology, such as video of skill performance, for personal skill analysis. This will be evident in the reflection process after the practicum teaching lesson.</td>
</tr>
<tr>
<td>3.7</td>
<td>WSU students will be required to assist K-12 students in using current technology to meet lesson objectives. These plans will be submitted in the written lesson plans. This will also be evident in teaching observations.</td>
</tr>
<tr>
<td>4.1</td>
<td>WSU students will use current technology, such as QR Skill Posters, to provide non-verbal instruction to K-12 students during their lessons in the K-12 practicum teaching. These plans will be submitted in the written lesson plans. This will also be evident in teaching observations.</td>
</tr>
<tr>
<td>4.2</td>
<td>WSU students will use technology capabilities to show demonstrations of plays and skills required for skill development during their lessons in the K-12 practicum teaching. These plans will be submitted in the written lesson plans. This will also be evident in teaching observations.</td>
</tr>
<tr>
<td>4.3</td>
<td>WSU students will use current technology, such as video analysis, to give non-verbal feedback to K-12 students during their lessons in the K-12 practicum teaching. These plans will be submitted in the written lesson plans. This will also be evident in teaching observations.</td>
</tr>
<tr>
<td>5.1</td>
<td>WSU students will use the technology available to select and plan assessments that measure the learning objectives outlined in the lesson plans.</td>
</tr>
<tr>
<td>5.2</td>
<td>WSU students will use the technology to record data collection on assessments given during</td>
</tr>
</tbody>
</table>
the K-12 practicum lesson. These plans will be submitted in the written lesson plans. This will also be evident in teaching observations.

5.3 WSU students will provide guided reflection at the end of every K-12 practicum teaching experience through the use of the technology. This includes reflection on the observations made by their peers using observation apps for IPads and on video analysis. These reflections are submitted and recorded electronically.

**Sustainability:**
With the rapid rate of development of new technology and available apps, it seems reasonable to maintain the use of the most current IPads for up to 5 years. After that time, I will re-evaluate the current state of technology use in the field and write for additional funding if needed.

**Detailed budget:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Number requested</th>
<th>Cost</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPad 32 GB</td>
<td>20</td>
<td>$529</td>
<td>$10,580.00</td>
</tr>
<tr>
<td>Smart Protective Case</td>
<td>20</td>
<td>$49</td>
<td>$980.00</td>
</tr>
<tr>
<td>Screen Protector</td>
<td>20</td>
<td>$15</td>
<td>$300.00</td>
</tr>
<tr>
<td>Apps</td>
<td>20</td>
<td>$30</td>
<td>$600.00</td>
</tr>
<tr>
<td>Tablet Storage and Charging Station</td>
<td>1 holds 24</td>
<td>$575.63 w/shipping</td>
<td>$575.63</td>
</tr>
<tr>
<td><em>PLETE Conference 2015 Registration</em></td>
<td>Costs are estimated</td>
<td>$325</td>
<td>$325.00</td>
</tr>
<tr>
<td><em>Hotel 3 nights</em></td>
<td>Costs using 2012 PLETE conference expense records</td>
<td>$250</td>
<td>$250.00</td>
</tr>
<tr>
<td><em>Transportation air and ground</em></td>
<td>Costs</td>
<td>$210</td>
<td>$210.00</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>$13,820.63</td>
</tr>
</tbody>
</table>

*Please note the cost for the PLETE conference attendance is also given in the proposal for ‘Laptops for Teaching in Alternative Settings, Video Editing, and Group Presentations’ and should not be repeated if both awards are granted.

**Attachments**
IPad Checkout calendar from two different weeks during Fall semester 2013 for the HPHP Department

**Letter of support from the Dean**
Gratefully submitted by Geri Conlin,
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