

**Utilizing Technology in Physical Education:**  
**Enhancing K-12 and PETE Programs**

SHAPE America 2015  
 Seattle, Washington

Presenters:  
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 Lynn V. Johnson, EdD Plymouth State University, Plymouth, NH

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**Functional and Fun Technology for K-12 PE and PETE Programs**

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**Session Overview:**

- Discussion of the ways in which Millennials’ learning is enhanced through the use of technology
- Identification and demonstration of useful apps for teaching and professional practice in K-12 and PETE Programs
- Student responses and perspectives from a variety of viewpoints on using specific app technologies and techniques

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**The Millennial Challenge**

- *Millennials: Born 1982 through 2000*
- *Expect to be engaged in their learning*
- Are Millennials Tech Savvy?
  - 86% of Human Resource Professionals agreed
  - Only 35% of Millennials agreed

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**The Millennial Challenge**

- Tech Savvy?
- OR Tech dependent?



The image contains two visual elements. On the left is a collage of various small photos with a smartphone at the bottom. On the right is a screenshot of a social media post titled 'Hikes by Harry Bliss' featuring a photo of two people hiking in a mountainous area. Below the photo is the text: 'You realize there's probably an app for all this?'

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**The Millennial Challenge**

- Students Need to Find Relevance
  - Able to Google anything they want to know
  - Do not typically value information for information's sake.
  - Professor's role is shifting from disseminating information to helping students apply the information
- Doing is more important than knowing
- Undoubtedly the most technologically connected generation ever

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## The Millennial Challenge

- Multitasking is a way of life



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## The Millennial Challenge

- Computers are not technology (Northern Illinois University)



- But iPads are!



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## Technology's Role

- How can PETE Faculty use technology to facilitate teaching that has been identified as most effective for Millennials?
  - facilitate cooperation among students
  - cultivate knowledge creation; and
  - promote active engagement inside and outside the classroom (Pinder-Grover & Groscurth)
- How can K-12 Physical Educators use technology to enhance teaching and learning in their classes?

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

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### Functional and Fun Technology for K-12 PE and PETE Programs

- Apps
  - Educreations
  - Dartfish Easy Tag
  - Ubersence
  - Comic Life
  - QR Codes
- iBook



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### Educreations

- Basic Plan \$0/year
  - Record & share lessons
  - Basic whiteboard tools
  - Create & join classes
  - Save 1 draft at a time
  - 50MB of storage space
  - Email support
- Bank of lessons in all areas including Health and Physical Education
- <https://www.educreations.com>



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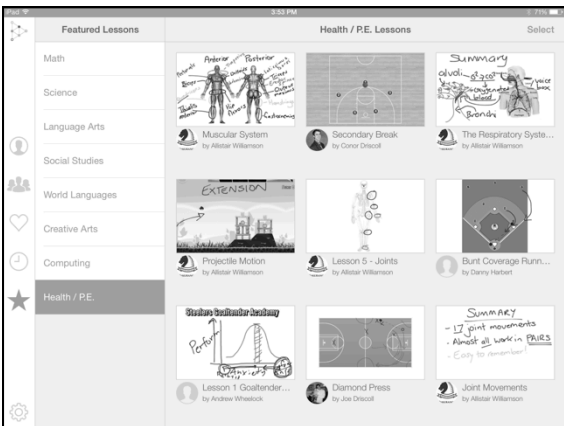
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The screenshot shows the Educreations app interface. On the left is a sidebar menu with categories: Math, Science, Language Arts, Social Studies, World Languages, Creative Arts, Computing, and Health / P.E. (which is selected and highlighted with a star). The main area is titled 'Health / P.E. Lessons' and displays a grid of lesson cards. Each card includes a thumbnail image, a title, and the author's name. The visible lesson cards are: 'Muscular System' by Allstar Williamson, 'Secondary Break' by Conor Dineoil, 'The Respiratory System' by Allstar Williamson, 'Projectile Motion' by Allstar Williamson, 'Lesson 5 - Joints' by Allstar Williamson, 'Bunt Coverage Run...' by Denny Harbert, 'Lesson 1 Goalkeeper...' by Andrew Wheelock, 'Diamond Press' by Joe Dineoil, and 'Joint Movements' by Allstar Williamson. A 'Featured Lessons' section is also visible at the top left of the main area.

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## Using Educreations

- Students K=12 or PETE
  - Record short presentations/solve problems/show tactics/strategies
  - Demonstrate understanding of topic/concept
- K-12 Teachers & PETE Faculty
  - Record lessons
    - Before class
    - During class
  - Post or Email link
- PETE Lesson: Cyclical Process of Curriculum Development  
<https://www.educreations.com/lesson/view/cyclical-process-of-curriculum-development/29529213/?s=4nwFZ5&ref=appemail>

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## Dartfish Easy Tag

- Dartfish Easy Tag: Dartfish EasyTag for iPhone/iPad and Android devices is an add-on to Dartfish Software to capture and record info during a game/activity:
- <http://www.dartfish.com/en/software/dartfish-easytag/index.htm>
- Cost: \$4.99

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## Dartfish Easy Tag: PETE

- Analyzing Teaching Behaviors
  - Video Analysis
  - Can identify any teaching behavior
  - Design specifically for individual needs
  - Provides Reports



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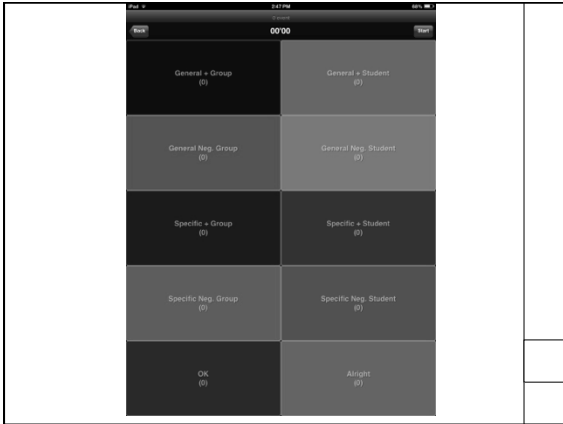
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**Dartfish Easy Tag: K-12 & PETE**

- Peer Assessment/Teacher Assessment
- Content: Volleyball
- Objectives:
  - Student will communicate intent to play ball by calling for it prior to hitting it during small-sided game play. (SHAPE America Standard 4)
  - Student will successfully contact ball and hit it to a teammate or over the net in play after calling for it. (SHAPE America Standard 1)

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**Dartfish Easy Tag: K-12 & PETE**

- Peer Assessment/Teacher Assessment
- Content: Volleyball
- Set-Up
  - Teams of 4
  - Each Player has a different color scrimmage vest
  - "Tags" Color Coded with scrimmage vest color

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|-------|------------------------------------|--|--------------------------|
| 00:00 | Calls and Hits Successfully #1 (0) | Calls - Unsuccessful or No Hit # 1 (0) | Hits Without Call #1 (0) |
|       | Calls and Hits Successfully #2 (0) | Calls - Unsuccessful or No Hit #2 (0)  | Hits Without Call #2 (0) |
|       | Calls and Hits Successfully #3 (0) | Calls - Unsuccessful or No Hit #3 (0)  | Hits Without Call #3 (0) |
|       | Calls and Hits Successfully #1 (0) | Calls - Unsuccessful or No Hit #1 (0)  | Hits Without Call #1 (0) |

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### Easy Tag Reports

**By Category**

|       |       |                              |
|-------|-------|------------------------------|
| 00:00 | 00:00 | Calls unsuccessful or no hit |
| 00:00 | 00:00 | Calls unsuccessful or no hit |
| 00:00 | 00:00 | Calls unsuccessful or no hit |
| 00:00 | 00:00 | Calls unsuccessful or no hit |
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| 00:00 | 00:00 | Calls unsuccessful or no hit |
| 00:00 | 00:00 | Calls unsuccessful or no hit |
| 00:00 | 00:00 | Calls unsuccessful or no hit |

**Summary**

|       |       |                                    |
|-------|-------|------------------------------------|
| 00:00 | 00:00 | Calls unsuccessful or no hit       |
| 00:00 | 00:00 | Calls unsuccessful or no hit 1     |
| 00:00 | 00:00 | Calls unsuccessful or no hit 2     |
| 00:00 | 00:00 | Calls and hit successfully 1       |
| 00:00 | 00:00 | Calls and hit successfully 2       |
| 00:00 | 00:00 | Calls and hit successfully 3       |
| 00:00 | 00:00 | Calls and hit successfully 4       |
| 00:00 | 00:00 | Calls and hit successfully         |
| 00:00 | 00:00 | Calls hit unsuccessful or no hit 1 |
| 00:00 | 00:00 | Easy Tag                           |
| 00:00 | 00:00 | Hits without call                  |
| 00:00 | 00:00 | Hits without call 1                |
| 00:00 | 00:00 | Hits without call 2                |

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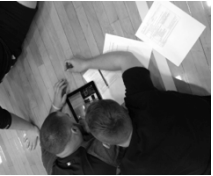
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### Ubersense

- PETE and K-12 Physical Education
  - Peer and Self Assessment
    - Video Analysis App
    - Split screen
    - Overlay
    - Markup
    - Sharing




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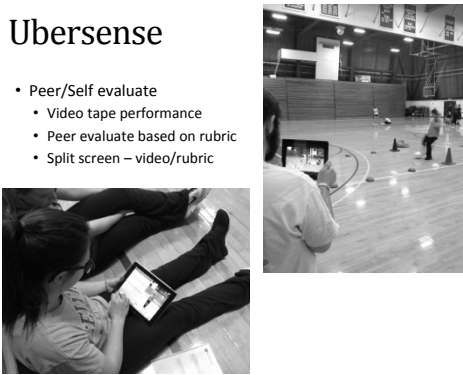
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## Ubersense

- Peer/Self evaluate
- Video tape performance
- Peer evaluate based on rubric
- Split screen – video/rubric




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## PETE Students Using Ubersense




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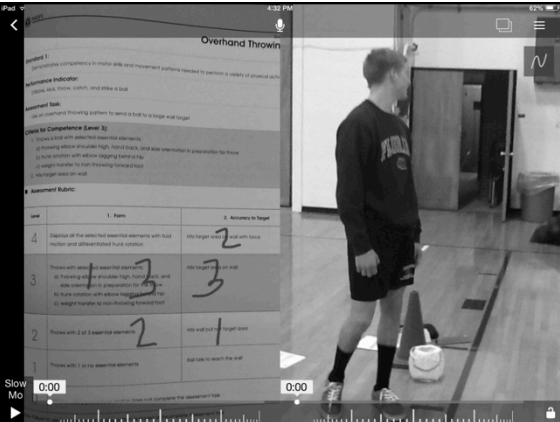
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**Overhand Throwin**

**Performance Indicator**  
 Perform skill three ways, and make a ball

**Assessment Task**  
 Use Ubersense tracking system to record a ball to a target wall throw!

**Criteria for Competence (Level 3)**  
 1. Throw ball with correct overhead arm action  
 2. Release ball at shoulder high, hand back, and ball perpendicular to forearm  
 3. Use rotation with active legging forward hip to weight transfer to non-throwing hand/foot  
 4. No finger catch on ball

|   | 1. Pass  | 2. Accuracy to Target      |
|---|--|----------------------------|
| 4 | Release ball that extended overhead arm action with full motion and appropriate back rotation  | Ball target on wall        |
| 3 | Throw with correct overhead arm action<br>1. Release ball at shoulder high, hand back, and ball perpendicular to forearm<br>2. Use rotation with active legging forward hip to weight transfer to non-throwing hand/foot | Ball target on wall        |
| 2 | Throw with 2 of 3 level for arm action   | Ball target on target area |
| 1 | Throw with 1 or no level for arm action  | Ball miss to miss the wall |

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| <h3>PETE Student Comments</h3> <ul style="list-style-type: none"> <li>• Pros           <ul style="list-style-type: none"> <li>• Able to compare the video and rubric right on the same screen – made it easier</li> <li>• Writing on rubric was helpful</li> <li>• Slow motion was helpful for careful analysis</li> <li>• Able to replay</li> <li>• Able to give each other feedback</li> </ul> </li> <li>• Cons           <ul style="list-style-type: none"> <li>• Technology can be tricky</li> <li>• Like paper better than technology</li> <li>• You are not watching it with your own eyes</li> <li>• iPads are expensive</li> <li>• Video may be deleted or fail</li> </ul> </li> </ul> |  |
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| <h3>PETE Faculty Comments</h3> <ul style="list-style-type: none"> <li>• Students were the most on task with video and rubric on Ubersense</li> <li>• Least on task when asked to peer assess by watching and recording on paper – no video</li> <li>• Ideally need one iPad per group of 3</li> <li>• Able to keep video – assess students ability to peer assess</li> </ul> |  |
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| <h3>Ubersense</h3> <ul style="list-style-type: none"> <li>• Ubersense Video Analysis and Coaching: Free</li> <li>• <a href="https://itunes.apple.com/us/app/ubersense-video-analysis-coaching/id470428362?mt=8">https://itunes.apple.com/us/app/ubersense-video-analysis-coaching/id470428362?mt=8</a></li> <li>• <b>Compatibility:</b> Requires iOS 7.0 or later. Compatible with iPhone, iPad, and iPod touch. This app is optimized for iPhone 5. Now available for Android.</li> </ul> |  |
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## Comic Life

- \$4.99 (basic)
- <http://plasq.com/apps/comiclife/macwin/>
- Other Apps with similar features:
  - Comic Life 3
  - Comic Maker (Free)
  - Toontastic (Free)



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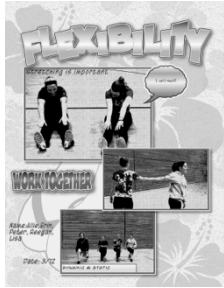
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## Using Comic Life

- PETE or K-12 PE
  - Fitness Concepts
  - Explaining Rules
  - History
  - Nutrition
  - Tell a story
  - Role Play
  - Just about anything!



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## PETE Assignment

- Class: Foundations of Physical Education and Sport
- Topic: The Obesity Crisis
- Question: Why is it important for all children to be physically active?
  - Must use original photos of someone in your group
  - Information must be accurate
  - Importance of physical activity is evident



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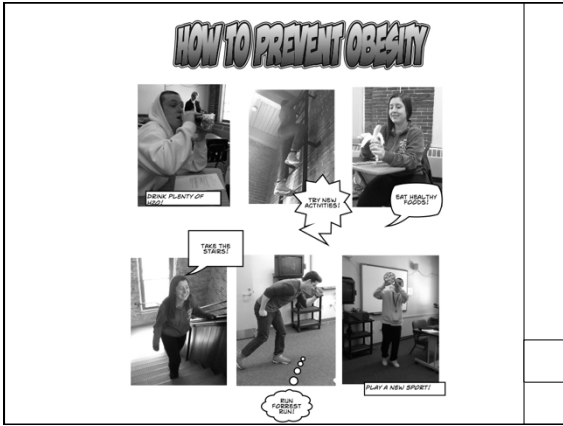
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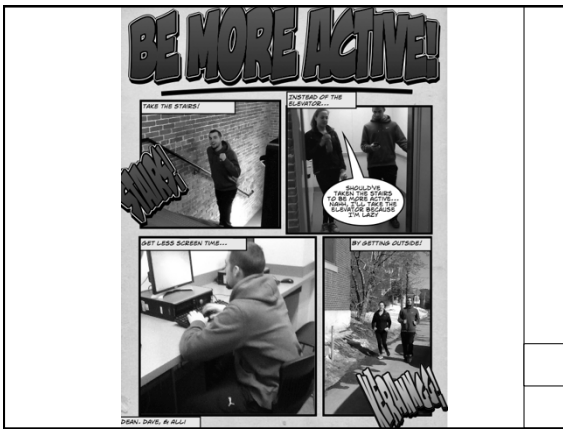
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### PETE Assignment

- Class: Concepts of Fitness and Skill
- Performance
- Topic: Health-Related Fitness Concept
- Directions: Using the Comic Life App – You have 30 minutes to Create a Comic that you might use to introduce or review a Health-Related Fitness Component
  - Develop a 1-2 page comic using Comic Life that fully demonstrates how you as a teacher would introduce the particular concept to your students through this medium
  - Must have original photos
  - Information must be accurate


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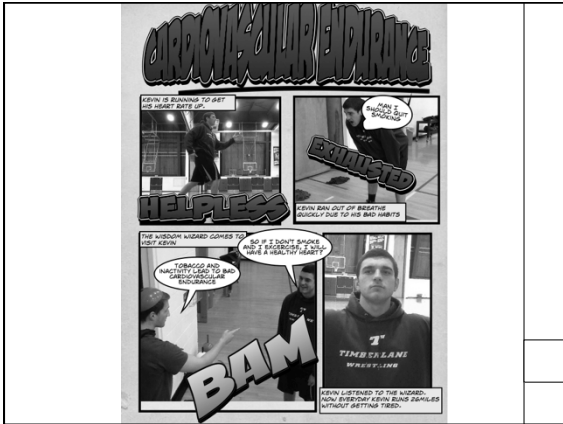
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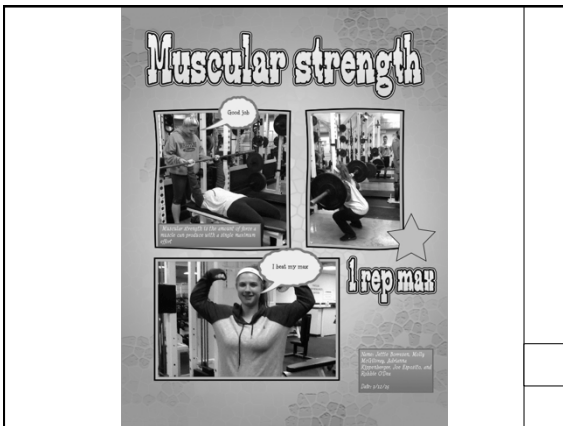
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### QR Code Creators

- ScanMe: <http://scan.me/>
  - Free
  - Available for Apple Devices, Android Devices, Windows Phone Devices, Window Devices, Mac, Kindle
  - Scan any barcode
  - Create QR Codes for urls
- ScanLife: <http://www.scanlife.com/>
  - Cost: \$49.00 month (creator) (Free trial available)
  - Reader: Free
- TagMyDoc: <http://www.tagmydoc.com/>
  - Create QR Codes for documents
  - Education: \$5.00/month per user

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## Using QR Codes in the Classroom

- PETE or K-12 Assignments
  - Use and Create (ScanMe)
    - [QR Code Assignment](#)
  - Stations (TagMyDoc)
    - Example: Juggling Posters (TagMyDoc)
      - Can create and change posters quickly
      - Interactive
      - Much more easily stored than posters
      - [Juggling Step One](#)

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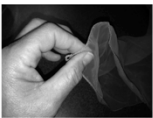
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*Juggling Scarves – One Handed*  
**STEP ONE**

Attempt the following:

- Use one scarf
- Hold scarf between index finger and thumb
- Toss one scarf underhand in catch with same hand
- Repeat 5 times



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## Using QR Codes in the Classroom

- Add Video (ScanLife)
  - Make posters “live”
  - [Juggling With Scarves Video Code](#)



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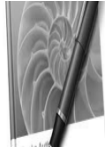
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## iBook



- **PETE Programs**
  - Interactive, multimedia format
  - Presentation of material in a means more in line with Millennial learning styles
  - Student Projects:
    - Application of material
      - How to book
      - Skill Cues
      - Concepts
      - Tactics

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## PETE Example



- **Standards-Based Assessment**
  - Developed for Elementary Physical Education Methods
- **Student response:**
  - Like the pictures/videos
  - Uses all of our senses to take in information
  - I love that the review tells us if we are right – helps us to learn the information
  - I like the different forms of technology used – keeps me interested
  - You can see the application of what you are reading about
  - Not just reading and visualizing ~ you can see it
  - Makes the book appealing to different types of learners
  - Keeps students engaged

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## K-12 Example: Floor Hockey

- Student Teaching Project
- Floor Hockey Unit – Grades 7-8
  - All students have iBook
  - Have never used IBooks in PE
  - Instructional aid for lesson
  - Offensive and defensive concepts



- Student Teacher Response:
 

*“Using the iBook was a great experience. The students were resistant at first but ended up getting into it. I even had other teachers come and tell me that the students couldn’t stop talking about how cool it was and how they didn’t know that I was an author!”* Meghan Cassidy, PSU Senior 2014

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## Floor Hockey: Student Teaching Project

- The iBook provided differentiated instruction that addressed several different learning styles.
- The iBook served as an excellent tool in the gym
- *“Even more valuable when I lost the gym and had to implement an alternate facility lesson”.*




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