

# **Skillastics Study**

## ***Heart Rate Response to Selected Skillastics® Games in Physical Education Classes***

by

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This was the topic chosen for Lisa's Master's Degree in Physical Education, Sport and Technology at the University of Northern Iowa. She is a graduate assistant and Polar Scholar at UNI and teaches Middle School Physical Education at Grundy Center Middle School in Grundy Center, IA

### ***PURPOSE***

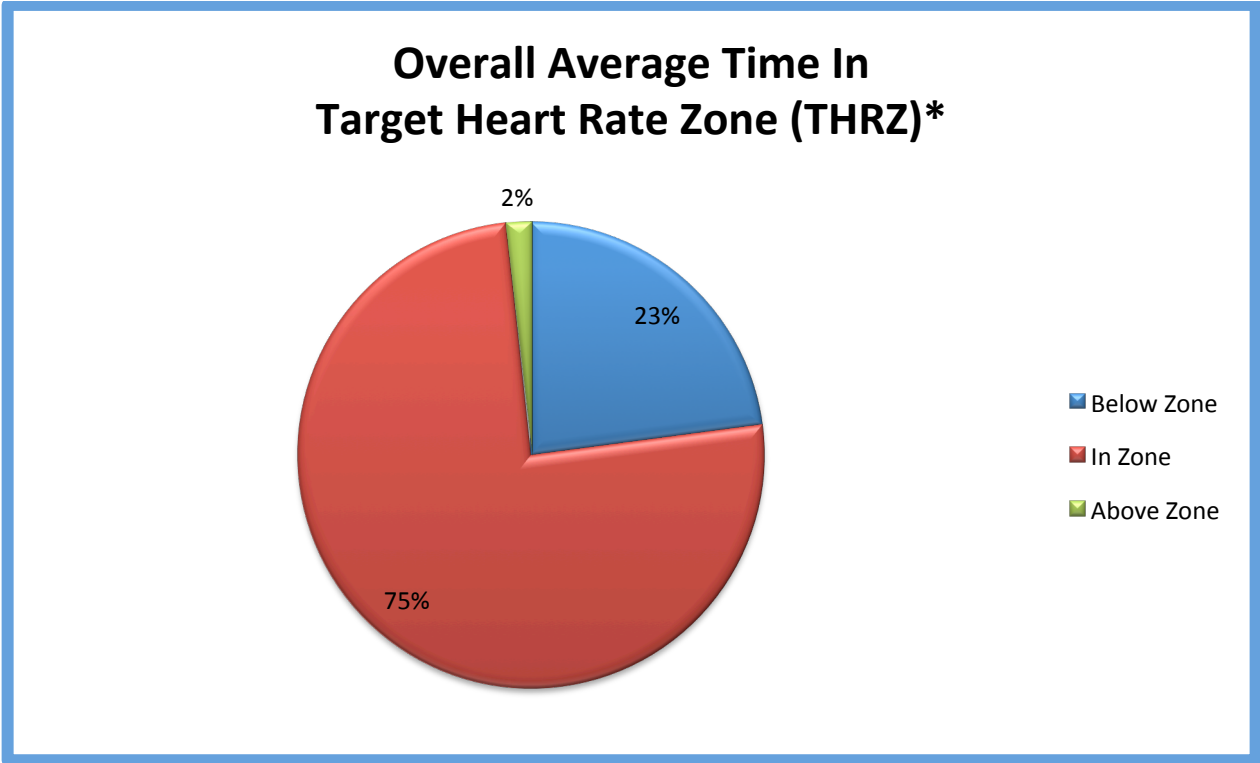
To determine heart rate response of adolescents during participation in selected Skillastics® games

- The project
- The Results
- Conclusions
- Overall View

# The Research Project

The study was designed to do the research by using selected Skillastics games as part of regular physical education class in three grades at Grundy Center Elementary and Middle School, in Grundy Center, Iowa for three days. The students wore Polar E600 heart rate monitors during the 20 minute game play. In the Grundy Center School District students wear heart rate monitors every day for physical education, so they are accustomed to them. Students in grade five participated in the Fitness Skillastics that is designed for elementary age students. Students in grade seven participated in Fitness Xtreme Skillastics that is designed for secondary age students. Students in grade eight participated in Basketball Skillastics. At the end of each of the three class periods students completed a short survey regarding their reaction, likeness and perceived effort to Skillastics.

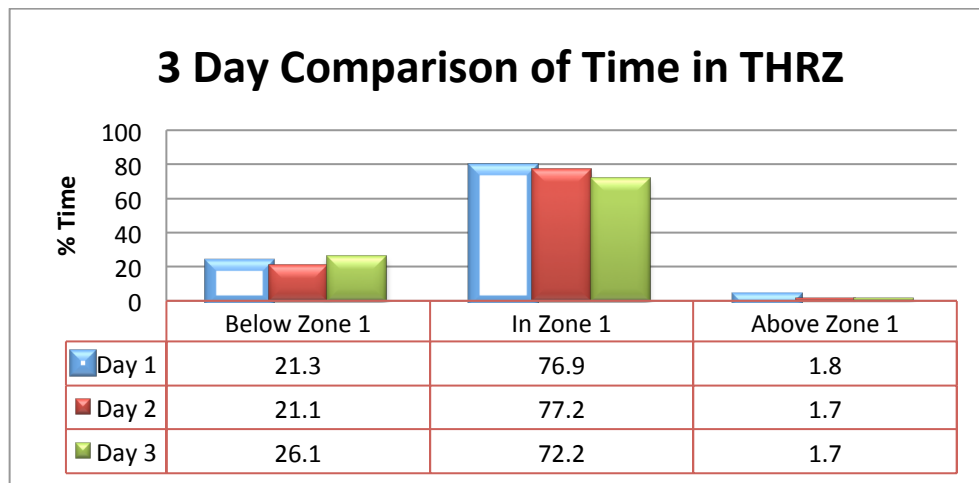
- Used Skillastics<sup>®</sup> games as part of regular physical education class for three days.
- Heart rates monitored by each student wearing a Polar E600<sup>™</sup> heart rate monitor.
- Grade five (n=23) participated in Fitness Skillastics<sup>®</sup>
- Grade seven (n=27) participated in Fitness Xtreme Skillastics<sup>®</sup>
- Grade eight (n=18) participated in Basketball Skillastics<sup>®</sup>
- At the end of every class period students completed a short survey regarding their reaction to Skillastics<sup>®</sup>.



This graph shows the overall average time in the target heart rate zone (THRZ). The data represents all three class periods, all three grades, and all three Skillastics games.

As you can see the students were in or above their THRZ for 77% of the 20 minutes they participated in the Skillastics games.

This is excellent and shows that Skillastics is capable of providing adequate time in the THRZ for students while they play it.



This graph shows the three day comparison of time in the target heart rate zone (THRZ). The data represents all three class periods, all three grades, and all three Skillastics games.

The blue bars represent the first day, red is the second day, and orange is the third day.

As you can see there is little difference between the days and the comparison of time in the THRZ.

## Average Heart Rate Results

- **The overall average heart rate during Skillastics® was 142 bpm**
- **Based upon the set target heart rate zone of 125-185 bpm**

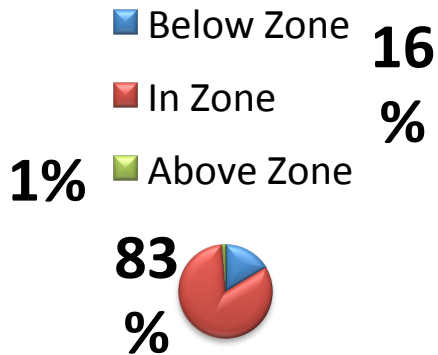
The data represents the average heart rate of all three class periods, all three grades, and all three Skillastics games.

This average heart rate is well within the target heart rate zone that we have set in Grundy Center of 125-185 beats per minute.

The THRZ can be broken up into three sub-zones; the energy efficient zone, the aerobic zone and the anaerobic zone.

This average heart rate of 142 bpm in this study puts the students comfortably in the energy efficient zone. This zone is also known as the fat burning zone. This zone provides cardiovascular benefits for the students and allows them to be active for a long period of time.

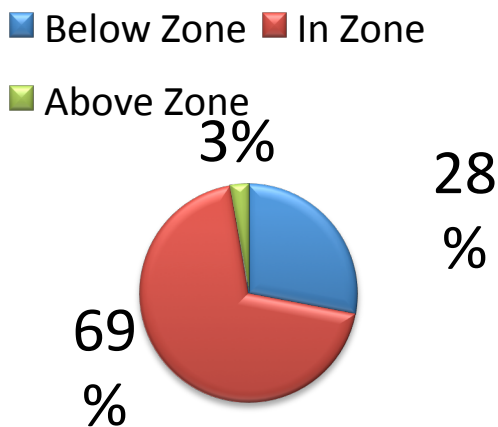
### Average Time In the Target Heart Rate Zone



- The overall average heart rate during Fitness Skillastics<sup>®</sup> was **146** bpm.

Based on the set target heart rate zone of 125-185bpm.

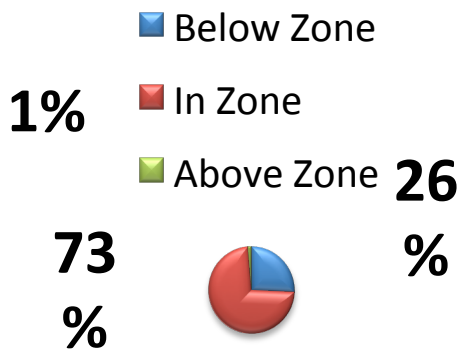
### Average Time In the Target Heart Rate Zone



- The overall average heart rate during Fitness Xtreme Skillastics<sup>®</sup> was **140** bpm.

Based on the set target heart rate zone of 125-185bpm.

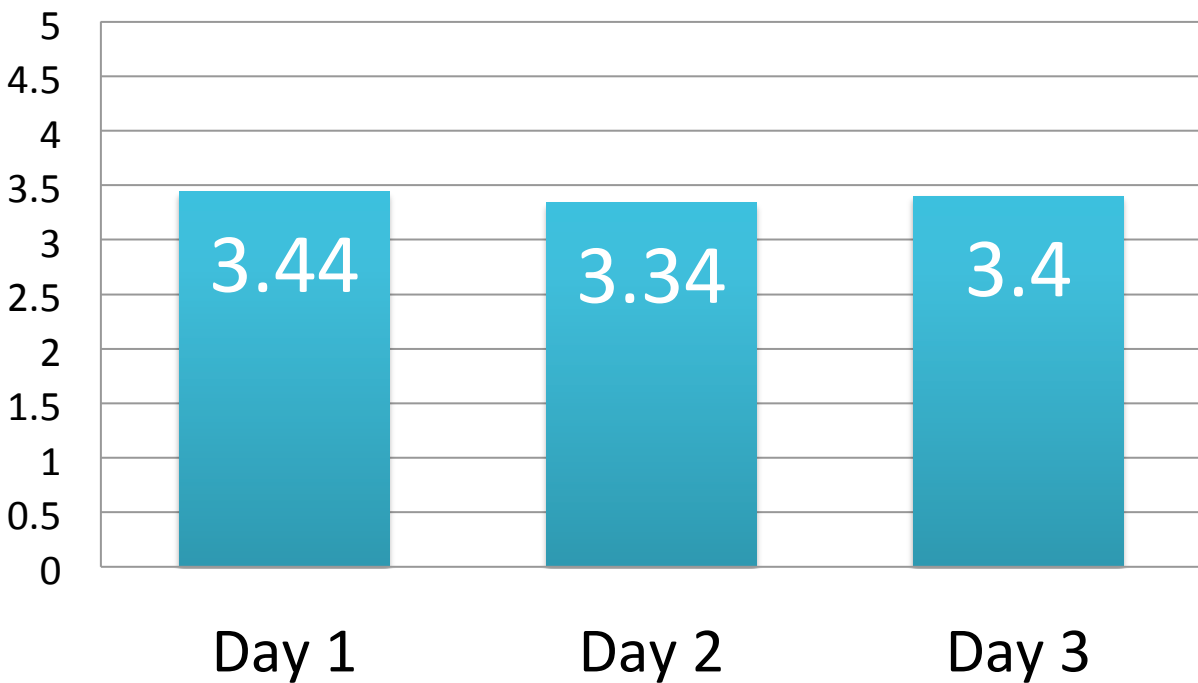
### Average Time In the Target Heart Rate Zone



- The overall average heart rate during Basketball Skillastics® was **139** bpm.

Based on the set target heart rate zone of 125-185bpm.

### Enjoyment Rating Over 3 Days



The data represents the average enjoyment rating over all three class periods, all three grades, and all three Skillastics games. There is very little difference over the three days, showing a constant enjoyment for Skillastics.

# Overall View of Skillastics®

- **Initial student impression and interest**
  - **Easy implementation**
  - **Technology integration**
    - **Self sufficient**
- **Use as a warm-up or instant activity in PE or Health**
  - **Half-Pint Skillastics®**
- **Skillastics is a GREAT addition to any PE curriculum!**

**Lisa's overall view of Skillastics not only as a researcher, but as a teacher is that:**

1. It provided initial interest to the students. It was placed in the center of the gym as the students came in and they were immediately interested in what it was and wanted to play it.
2. It was extremely easy to implement. As soon as you teach the students how to play it and they have it down you, as the teacher, can become a participant while still keeping control of classroom management.
3. Technology can be integrated easily. At the elementary level where they used the Fitness Skillastics game, the teachers scanned the manual images and used a PowerPoint to introduce each of the activities to the students as a large group.
4. The games can be used as an instant activity or warm up in a PE or health class. Have it out in the gym and hand the students get in their own groups and play. One of my colleagues said they would like to use it in her college classes when the students would start to snooze off as an activity to get their brains working again. We all know that an active body produces an active mind.
5. I know I didn't study the Half Pint Skillastics, but I do play it with my pre-school PE class and they love it more than anything. The large dice fill up their little arms and cards are colorful and illustrated. Having the choice to focus on colors or shapes is a great way to change things up. I would recommend it to any Pre-School or Kindergarten classroom.
6. Finally, my overall view of Skillastics is that it is a great addition to any PE curriculum. It provides our students with adequate time in the target heart rate zone that we should already be giving them. So, by using Skillastics as part of any PE curriculum you have peace of mind that you are giving your students the opportunity to improve their cardiorespiratory health.