Health and Wellness Testing Assessment

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Abstract
It is important for astronauts to maintain a healthy lifestyle because they have an increased risk of cardiovascular disease and muscle deterioration. Researchers study and monitor astronaut health for safety and disease prevention. Many of these methods are used in other health fields (e.g. exercise science, nutrition, medicine.) In this lesson students will be given the opportunity to learn and perform health assessment techniques, calculate risk factors, and make recommendations for “clients.” I will teach the assessment methods, healthy eating and exercise recommendations, and testing techniques and sample calculations on paper. Then, students will be divided into groups of three, with each student assigned a role (future astronaut, doctor/exercise scientist, and nutritionist.) Students will record height, weight, blood pressure, heart rate, and waist circumference. Calculations and standard risk charts will be used to evaluate “future astronaut” health risk. Students will then work in a group to determine nutrition and exercise recommendations for their “client.” By the end of the lesson, students will understand healthy eating practices, demonstrate ability to perform common health measurements and calculations of risk, and demonstrate ability to translate risk analysis into health recommendations.

Introduction
The common core standard for my lesson is the nature of science, these 8th grade students will be applying knowledge of science in real world challenges. I will begin the lesson by having students give their perspective and knowledge of a healthy diet is and what foods should you eat regularly. I will also ask students to guess what a normal blood pressure and heart rate is. Next students will watch a video about Nutrition from NASA astronauts. After the video, I will provide handouts including 1) detailed protocols for measuring height, weight, blood pressure, heart rate, and waist circumference, 2) standard risk charts relating measurements to cardiovascular disease and metabolic syndrome; 3) instructions for converting measurements into risk analysis; and 4) standard nutrition recommendations for healthy individuals. I will demonstrate the measurements on a volunteer, and have students practice calculations, risk analyses, and action plan with data from two “sample clients.” The lesson is designed to provide a collaborative, “real world” learning experience for students to take the information they are taught and apply it modeling expert behavior. They will work together, providing critique and suggestions to work of their group-mates, demonstrating their knowledge and ability to work in teams.

Methodology
In this lesson, the methodology used is the Lev Vygotsky Social Theory. He suggested that students learn best when they interact with their peers, teachers, and experts. This lesson provides a collaborative “real world” learning experience for students to take the information they are taught and apply it modeling expert behavior. They will work together, providing critique and suggestions to work of their group-mates, demonstrating their knowledge and ability to work in teams.

Materials
- Stadiometer with scale
- Sphygmomanometer
- Measuring tape
- Protocol handouts, standard risk analyses charts, and nutrition handouts
- STEMonstrations: nutrition video

Results
Students will learn that nutrition is an important factor in life and specific steps they can take to create healthy eating habits in their life. This activity can influence students who do not care for health or science to be in an interactive lesson. Students will know how to take common body measurements and how they relate to health.

Recommendations

Conclusion

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