Technology in Physical Education

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Technology is all around us, something we can no longer escape no matter how hard we try. Whether you're at home, at school, or even playing a sport, the world we live in today is surrounded by endless technology. In schools, we often associate technology within subjects like math, science, or even history, but there's one subject that you wouldn't expect technology to be in. Physical Education. It is to no surprise that technology has now found its way into PE classes and it is having a bigger impact than many might expect. Today PE classes are using tools such as fitness trackers, exercise apps, video analysis and active video games in order to make it easier for students to learn about a healthy lifestyle, tracking their progress and how to stay motivated. Technology is also giving teachers the chance to give better feedback and also help students regardless of their skill level they are at. Since our classrooms are becoming more digital and students are glued to their phones, Physical Education teachers are finding creative ways to combine physical activity along with technology in order to help students learn, stay healthy and enjoy being active more often.

As we all remember, PE class used to be full of traditional sports, running laps around the track or even inside the gym and the boring basic stretches, but because of our technology today PE has become more dynamic and personalized to our students. One of the most commonly used tools that teachers are using are smart devices or sometimes referred to as fitness trackers. Now you may be wondering, what is considered a smart device/fitness tracker? Some examples would be an apple watch, fitbit, polar etc. These are all devices that most students have nowadays and simply go around their wrist. If the student isn't wearing one, but it is still in their pocket, it still tracks their activity. These devices track the students' steps, their heart rate, how many calories they've burned and how long they have been physically active. These devices connect right to the students phone which allows them to track their data all in one place. By using these fitness trackers, it gives both the student and the teacher real-time feedback (Curtin, 2024). An example of how the fitness tracker and wearable device can be used in the PE classroom is, a teacher may ask the student what their heart rate is during an activity. If the student replies with a low heart rate, this automatically tells the teacher that the student isn't working hard enough and that they need to encourage the student to push themselves a little harder and get their heart rate up. PE teachers can also ask students their heart rate level in order to make sure that each and every student is participating at a safe level. You can tell this simply by the students heart rate, and if their heart rate is too high, then as the teacher you are able to help the student calm down a bit and get them back to a safer heart rate. This all helps give real time feedback and students are able to understand their bodies, see their results which can increase their engagement and even their motivation (Curtin, 2024).

Technology now being involved in PE classes can allow teachers to record movement using their phones, tablets or even from a camera. There are plenty of apps that can be used such as Hudl, Sworkit, Balance it, Fit Radio etc or even just the basic camera recording works just as well (Ward, 2020). How this works is when the student is performing a skill, this could be

serving a volleyball, running a sprint, throwing a football, hitting a ball or even shooting a basketball, the teacher can record the students action. Now since it is recorded, the teacher can go back and rewatch the footage and see the exact action performed, slow it down, rewind if needed and even pause in order to see where the student can improve on. By using video analysis, it offers visual feedback to the students which they can't get in the moment, but because of technology now they can. It also allows teachers to help correct each and every student since the teacher can't always see all fourty of their students all at once (Suriya & Arumugam, 2020). When students are able to watch themselves in slow motion or pause the video at certain points, it allows them to focus on specific details that they need to adjust. It also allows the teacher to help the student correct their mistakes and demonstrate to them how the action should be done. Without technology and being able to video, these mistakes typically go unnoticed, but now teachers and students are given the opportunity to review and correct them together. You can also have each student create a folder to store their videos in and each class they have to record themselves performing the same task. This gives the student the ability to compare and contrast how much they have improved over time on that particular skill that they were working on. Students can even watch their classmates on film and give positive feedback creating a friendly environment. Not all students are visual learners which is why it is good that technology has now progressed into PE. Sometimes, students need to be shown a video that breaks down the sport or skill step by step since it is easier than just listening to instructions. It helps students not only get better at the specific sport/skill, but they also get a deeper understanding and can mimic what is being taught in the video at the same time (Curtin, 2024). Video analysis gives students the chance to slow things down, reflect and learn, but also allows the teacher to give specific and helpful feedback which overall makes PE a better learning environment for all.

One of the most important tools that PE teachers have been relying on now are exercise and fitness apps. These apps are a PE teacher's best friend since they offer a wide range of different activities, tracking tools, and guidance all in one place. The apps are very easy to download and most of them are free for students to access. Since all students are connected to their phones, students can download the exercise and fitness apps which can be used during class and even at home outside of school. Some popular exercise and fitness apps are Nike Training Club, MyFitnessPal and MapMyRun (School Speciality, 2013). One of the biggest advantages to using these apps is that it allows students to exercise at any time, anywhere and even at their own pace that they feel most comfortable at. For example, if a student misses their PE class, they are still able to make up the work for that day by completing a workout at home using an exercise and fitness app. During COVID, teachers relied heavily on fitness apps and would have students download an app, record themselves completing different workouts and then send it in to count as the day's activity. Another example of how these apps help PE teachers is if there is not enough equipment available or space, the PE teacher can simply go on the app and select a bodyweight workout and have the students perform it. Many of these apps even offer guided workouts and there are sometimes coaches and videos that demonstrate the workouts which

gives the students an easy visual to follow if they get confused at any point. This gives the students the opportunity to see how the workout is done properly and allows them to learn without using improper form and hurting themselves. Some apps even give the option to customize the workout plan. Students have the opportunity to pick what works best for them and allows them to workout at their own pace. What one student does as a workout, may not work for another student which is why these exercise and fitness apps are great for everyone to use. The apps even include tracking tools where students can log how many workouts they have completed, how many steps taken, how long they exercised, how many calories they burned or even the progress of how much they have been lifting. The apps use all the data that the student imports and this allows them to track their progress over time which can help students set and reach their fitness goals. These exercise and fitness apps help students stay on track. There are also exercise and fitness apps that help students focus on their nutrition and even their healthy habits. As mentioned before, MyFitnessPal is an app that allows students to track their meals and learn about the importance of healthy eating (School Speciality, 2013). PE and health are connected in the school systems which is why it is important to teach students that fitness isn't just about being active, but also about the choices they make outside of PE class. The apps are making it easier for students to take control of their own health and fitness. It is providing students with structure, motivation and educating them by using technology since this is what they are connected with in their daily lives.

When most people think about video games, they would never think about video games being used in PE class. Their minds immediately go to somebody sitting on a couch staring at a pixelated screen yelling when something goes wrong. If I told you that video games have now made their way into PE class, what would you think? You're probably thinking that there is no way and video games shouldn't be involved in PE since this is a time for students to get off their digital devices and run around. What if I told you that video games have evolved and are now used in PE classes. The video games that are used in PE classes are called active video games or also called exergames. These video games are created to get students up and moving and combine fun gameplay with physical activity. Most of us are already familiar with these games. Games such as Just Dance, WII Sports and Zumba Fitness all use motion sensing technology to track the player's movements (Lesson Plans for Physical Education, 2013). For example, the popular game called Just Dance that many students grew up playing on their WII with each other. Students now have the opportunity to participate in class and play Just dance. They follow dance routines on the screen and can go against one another and earn points based on how accurately they are following the dance moves. This gets students up and moving, while also competing against each other in a friendly manner. Of course these fitness games will get the students heart rate up, but it actually is also improving their coordination, rhythm and endurance. These games are designed to be fun and oftentimes the students don't even realize that they are exercising because it isn't your typical exercises. Video games allow all students to participate in PE class since not every student enjoys traditional sports. Video games in PE allow students to

have fun and move at a pace that they set for themselves. On rainy days, video games are especially helpful for PE teachers when their lesson plan gets ruined and they need a backup plan, but don't have time to come up with one. Video games create an adaptive PE class where all students regardless of their skill level can stay active and participate with one another (Suriya & Arumugam, 2020). Video games in PE create teamwork, friendly competition and social interaction. Sometimes students need to work together in pairs, teams or sometimes individually. Regardless, students get to have fun with one another while being active without it being something that they dread.

Technology in the PE setting allows for more detailed and accurate assessments and even information. Instead of teachers telling students that they aren't working hard enough or grading based on participation (which students find very unfair), because of technology teachers can look at the students heart rate data, step counts or simply even their video progress. This allows students to get graded in a fair way and gives students a personal look into the progress they are making. As mentioned earlier, it even helps students take ownership of their learning (Curtin, 2024). Students can track their progress using the desired app of choice and compare their videos from the first day of class to the last day of class and feel a sense of accomplishment from their improvement. Most students thrive on seeing their progress and this also allows them to gain more confidence in themselves.

The future of Physical Education is just beginning and it will continue to as time goes on. Technology continues to develop more and more each day which means PE classes are now having more ways to help students grow and succeed. Some schools are starting to test out a new program where students get the choice to build their own health plans, track their fitness throughout PE class and explore what exercises and activities they enjoy the most. Technology might be something that is frowned upon, but in PE it helps students become more engaged and have a personalized learning experience.

Physical education has come a long way and continues to change over the course of the years. Technology has completely changed the way we think about Physical Education. PE was once about teaching students how to play traditional sports, running laps or doing boring exercises, but now times have changed and it is about helping every student find a way to be active that works best for them. Whether students are using fitness tracking equipment, videos to analyze themselves, exercise and fitness apps or playing active video games, students are learning more about their bodies and health which is giving them all the tools they need in order to improve. Teachers now have better ways to support their students and make PE a more enjoyable experience, personalized to each student of theirs. As our world becomes more digital, PE is handling that and proving that technology isn't as bad for students and it can actually be used to make a positive difference in students' lives.

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